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Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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6 February 1986

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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AUSTRALIA

BROADCAST POLICY DEBATE REVEALS CABINET DIVISION

Broadway THE NATIONAL TIMES in English 13-19 Dec 85 pp 3, 4

[Article by Alan Ramsey]

[Text] For three hours last Monday Bob Hawke and his beefy junior Communications Minister, ex-Melbourne solicitor Michael Duffy, faced each other across the table in the Cabinet Room at Parliament House and argued back and forth, like a marathon rally in a tennis match.

There were 15 other ministers present. A number of them joined in at various times, often raising questions.

But Hawke and Duffy dominated. And neither gave an inch to the other. In all they spoke for an estimated 80 percent of the three hours the Cabinet meeting was in session.

When the meeting finally broke up, soon after 6 pm, nothing was resolved. Hawke and Duffy had talked themselves out. Neither had backed down, but neither had won either. The Cabinet was divided. It was a stand-off.

The tense anti-climax in Cabinet this week over sweeping plans to restructure Australia's highly profitable commercial television industry is perhaps the most severe test yet of Bob Hawke's authority in Cabinet and his pervasive ability to manipulate his Government.

Significantly Cabinet's group of senior Centre-Left ministers did not go with Hawke.

Foreign Minister Bill Hayden and Finance Minister Peter Walsh spoke firmly against the thrust of Hawke's proposal. But they did not back the detail of Duffy's submission either.

Another Centre-Left Minister, Mick Young, spoke little, saying he wanted more time to consider the complexity of the proposals.

But he reminded other ministers that Labor's vote in last week's South Australian election victory had actually fallen in regional areas of the State.

It was a telling point against Hawke.

The specific issue under discussion was competing proposals to end the regional monopolies of Australia's 36 commercial TV stations in country areas by forcing them to accept competitors into their respective areas of operation.

Duffy wants to phase new TV services into regional areas over a five-year period. Hawke wants it done immediately.

The regional stations, in earlier negotiations with Duffy, reluctantly endorsed his proposal. But they are screaming blue murder about the Hawke proposal, which they say is a formula to destroy them for the advantage of the metropolitan networks.

Ken Stone, secretary of the Regional Television Association, said this week of the Hawke plan: "We'll fight it like dogs if it's adopted. It will cause so much chaos, and leave the networks to sit around like vultures to pick up the pieces."

It was this sort of hostility that Young was drawing attention to in noting that the politics of the issue was not as simple as merely introducing three commercial TV channels to grateful country viewers.

One Government source said later: "Mick was just reminding everyone that they hate us out there in the bush".

Hawke's authority in the Government if he persists in his hard-line is not all that is undergoing strain.

Not for the first time, but in perhaps its most fundamental sense, the contentious issue directly challenges Hawke's reliance on his relationship with, and advice from, key figures in the powerful NSW right-wing Labor machine.

Foremost among these are his senior staff political adviser Peter Barron and the former NSW ALP State secretary, Senator Graham Richardson. Both Barron and Richardson strongly support the policy attitudes on TV broadcasting that have now brought Hawke into conflict with his Cabinet.

These attitudes in turn loyally reflect those of the Wran Government in NSW and the close business and personal relationships it has with Rupert Murdoch's New Ltd organisation and Kerry Packer's Consolidated Press.

They are attitudes often quite bitterly opposed to the ABC and the major publishing and TV groups, John Fairfax and Sons and the Herald and Weekly Times.

Last week, at a four-hour meeting on Thursday of Cabinet's industry committee, Hawke successfully steam-rolled Duffy's submission on TV restructuring that Duffy is now fighting to save in the full Cabinet.

During this committee meeting, Hawke acknowledged that the changes he wanted made to the Duffy proposals would benefit Packer's and Murdoch's TV networks in Sydney and Melbourne to the disadvantage of other capital city television operators.

At one stage Hawke is said to have disparaged groups such as the Fairfax organization, the Herald and Weekly Times, and Robert Holmes a Court's TV and publishing interests in Perth and Adelaide with a remark suggesting they were "not friends" of the Labor Party, and why should the Government do anything for them?

The perception of Barron's role in shaping such views is widespread in the Labor Party. It is creating enormous antagonism, both among ministers and backbenchers.

Several months ago Barron and Richardson were being blamed for the growing speculation in both Government and broadcasting circles that Hawke wanted to remove Duffy from the Communications portfolio.

Tourism and Sport Minister John Brown, a loyal Hawke supporter, was constantly named as Duffy's pending replacement.

Duffy finally approached Hawke after the reports persisted. Hawke assured him he would not move him to another job against his will.

Yet Richardson privately has made no secret of the fact he wants to come into the ministry at the next opportunity and has nominated Communications as his preferred portfolio.

This has appalled those in the Government hostile to NSW Labor's close ties with the Murdoch and Packer groups.

It is against this background that Cabinet met last Monday and its industry committee the previous Thursday. It takes up the issue again this Sunday and could go over to Monday.

Normally Bob Hawke is not an interventionist prime minister. Malcolm Fraser was forever interfering in the portfolio responsibilities of his ministers. Hawke is not like that.

He seldom interferes, preferring instead to act as chairman in distilling a common thread from opposing views when a policy matter finally goes before Cabinet. When he does intervene it is usually compelled by political instincts, not policy differences.

Hawke chases votes and political advantage, not ideological commitment. Policy is left to his ministers to pursue.

But throughout his prime ministership Hawke has displayed a keen, at times passionate, interest in broadcasting policy. Not radio, but television broadcasting. This is not the first time he has been in confrontation with Duffy.

Earlier this year Hawke opposed Duffy's submission to restrict the metropolitan networks from using the Aussat satellites for direct broadcasting to regional areas.

Murdoch, Packer and Fairfax lobbied in favor of the concept. Hawke supported them, but lost to Duffy in Cabinet.

The reports that Duffy was to be shifted from Communications started to run soon after.

The scheme now before Cabinet is even more fundamental than the introduction of the Aussat system. It is the first attempt to revamp the industry since television was introduced in Australia in 1956.

The policy rationale is to increase competition, both in broadcasting in country areas where viewers are restricted to one commercial channel, and in the actual production and distribution of TV programs.

The political concept is to give all country viewers the same diversity of TV choice--three commercial stations, plus an ABC station--as viewers have in the major capital cities.

Behind both concepts is the Labor Party platform commitment to break down the highly concentrated ownership and control of the media in Australia. The task is not easy.

What Michael Duffy has come up with is a scheme based on a detailed report prepared by his department and released six months ago. In it the Australian Broadcasting Tribunal, the government body that issues radio and TV licences and monitors their operations, nominated "structural imbalance" as the key problem in commercial television.

In other words, the local TV industry--production and broadcasting--is dominated by the six commercial channels in Sydney and Melbourne. These two cities, with their big populations, have 43 percent of the country's entire TV viewing audience.

The other 57 percent is shared by the other eight capital city commercial stations and 36 country stations.

No other single "audience reach" exceeds Brisbane's 9 percent. Adelaide has 7.2 of the nation's TV viewers, Perth 6.3 percent, Newcastle 4.1 percent, Wollongong 2.3 per cent, Canberra 2 percent, Ballarat and Lismore each 2 percent, and so on down to Mt Isa and Broken Hill at the bottom, each with a fifth of one percent.

That's "structural imbalance".

It means Packer's two-station Nine network and Murdoch's two-station Ten network, each with a station in Sydney and Melbourne, can reach 43 percent of all TV viewers in the country; the Fairfax group's two Channel 7 stations in

Sydney and Brisbane can reach 31 percent; the Herald and Weekly Times two Channel 7 stations in Melbourne and Adelaide can reach 28 percent; Alan Bond's two stations in Perth and Brisbane can reach 16 percent; and Robert Holmes a Court's two stations in Perth and Adelaide can reach 13.5 percent.

It also means the 14 existing commercial stations in the five major capitals (Perth is in the process of getting its third commercial licence) share 66 percent of the national audience, while well over double the number of regional stations (36) scramble for a small piece of the action from among the other 34 percent.

This is why the big groups are dominant and why, among these groups, the Packer and Murdoch networks in Sydney and Melbourne are so powerful in the industry.

Duffy's scheme to overcome this "structural imbalance" and increase competition has two prongs. One would abandon the rule that restricts licensed operators from owning only two stations and impose instead a so-called "audience cap" of 43 percent on any one licensee.

In other words, Alan Bond could add to the 16 percent audience now reached by his two stations in Perth and Brisbane by buying up any number of TV stations anywhere in Australia, city or country, so long as the combined audience reach of all his stations did not exceed 43 percent.

And so could anyone else--anyone that is, except the Murdoch and Packer groups who already have an audience reach of 43 percent with their two existing stations in Sydney and Melbourne.

It means nobody would lose anything they already have, while the smaller operators can get bigger and more competitive, but the biggest--Murdoch and Parker--can't grow any further.

The second prong of the Duffy proposal is aimed at breaking up the comfortable little monopolies of the country stations. This envisages dividing regional Australia into 10 zones and allowing three competitive commercial channels to operate in each zone.

Such a zone, for instance, would combine the four existing towns of Grafton, Taree, Tamworth and Lismore on the northern NSW coast. It would have three channels broadcasting to all four towns instead of the existing one channel in each town.

This plan is the so-called aggregation policy. Duffy would phase it in over a 10-year period starting July 1 next year. In the first five years, however, all 36 existing regional stations, as an interim measure, could introduce their own multi-channel service.

This means a single TV station in, say, Launceston could broadcast a second program signal from the same station by the end of 1987, and a third by the end of 1990. The idea of this is to get additional commercial services to TV

viewers as soon as possible without financially crippling the regional stations as they prepare for competitive "aggregation" services.

The Government's backbench Caucus industry committee supported Duffy's regional phase-in program, but balked at the 43 percent audience cap as the extent to how big any one TV broadcaster could get. [as published] It recommended 33 percent simply to prevent any channel holding two licenses in the two biggest cities--Sydney and Melbourne.

It reluctantly accepted Duffy's view that Murdoch and Packer should not be forced to sell one of their stations because they already exceed the proposed 33 percent cap. But it insisted on writing in a clause that if either of these two networks sold out in the future, it could not sell the two stations to the same buyer.

This is the so-called "grandfather" clause which recognises the reality of the current generation of TV licensees but seeks to ensure it is not perpetuated in the next generation.

Then Bob Hawke moved in with his adviser Peter Barron.

At last week's Cabinet industry committee, Hawke watered down the ownership and control provisions by cutting Duffy's 43 percent recommended audience cap to 35 percent, scrapping the Caucus proposal of a grandfather clause, and writing in a provision saying no TV licensee could own any more than two capital city stations.

Calculated or not, the Hawke proposals all protect the privileged position of the Murdoch and Packer networks.

By reducing the audience cap to 35 percent they prevent any competitor from ever becoming as big and as powerful as their 43 percent. By scrapping the grandfather clause they ensure the two networks retain their dominant position in the TV industry.

And by writing in the restriction on buying any more than two capital city stations it prevents any of Murdoch's and Packer's competitors from putting together a three- or four-city network in the smaller capitals.

Getting rid of the grandfather clause also means either Packer or Murdoch could in the future sell their two stations as a network, not singly. The financial benefit is enormous: as much as \$100 million could be stripped from their value if the grandfather clause was enforced.

Hawke's attitude to Duffy's regional TV plan was just as sweeping. He supported immediate three-channel competitive services in all of the proposed 10 country zones. No phase-in period at all. Instant competition. Hawke is said to have been proposed that government money be pumped to the regionals to help them finance the changeover.

Cabinet's industry committee, stacked with ministers from the Prime Minister's own faction, endorsed the changes. Duffy didn't have a chance.

The amended scheme went forward to last Monday's full Cabinet as the committee's recommendation. And there the momentum of the Hawke steamroller was brought to a grinding halt.

Three hours of debate never got past the regional scheme. The ownership and control provisions--the 35 percent versus 43 percent audience cap--were not discussed at all. That fight is still to be fought on Sunday.

It promises to be short and bloody. Late this week Hawke, supposedly surprised by the resistance, both in Cabinet and among alarmed and angry backbenchers, was said to be re-thinking his position.

He cannot win anything like all he wants. The emphasis is now on compromise.

/9274

CSO: 5500/4321

HONG KONG

STATE OF HONG KONG TELEPHONE SERVICE REVIEWED

Hong Kong HONGKONG STANDARD in English 27 Nov 85 Supplement pp 1, 12

[Article by Gertrude Layton]

[Excerpt]

Services in Hongkong are provided by Hongkong Telephone, a member of the Cable and Wireless international group of companies.

It operates under franchise from the government and provides an efficient and economic service catering for over 2 million telephones in use throughout Hongkong.

Ever since public telephone service was first introduced in Hongkong in 1882, just six years after the telephone was invented by Bell, Hongkong has adopted a progressive policy in the provision of telephone services.

In 1930 all manual telephone exchanges were replaced by the new automatic Strowger exchanges and the first Electronic exchange was installed in 1970.

Today Hong Kong Telephone is well on the road to the digitalisation of its network to cater for the growing demand for advanced voice, data and text communication

which is now forming an integral part of the telecommunications service.

Working in line with the new digital switching techniques are the cable networks required to cope with the rapid transfer of large amounts of information.

It comes as no surprise therefore to learn that Hong Kong Telephone operates one of the largest urban optical fibre networks in the world.

Also catering to the needs of data users are such services as Datapak — the Public Data Network, Faxline — Hong Kong Telephone's Facsimile service and other related teletex facilities forming the basis for such futuristic concepts as the "cashless" society and the "home office".

The former is already with us in the form of EPSCO (Electronic Payment Services Company) where a consortium of banks and retail outlets have joined together to allow their customers to direct-debit their bank

accounts at the point of purchase of goods.

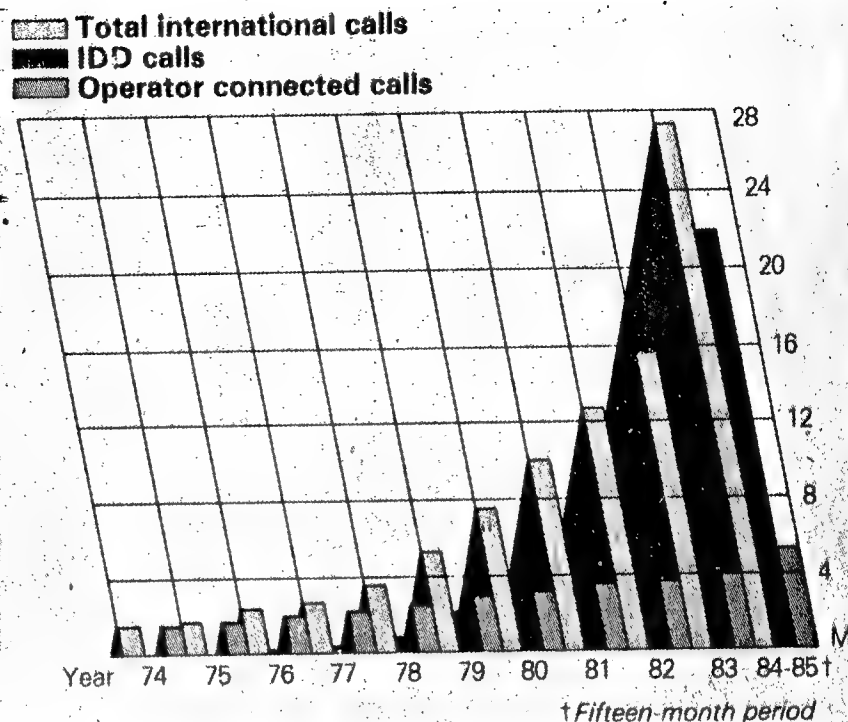
In line with these varied developments and the change in the basic concept of telecommunications, it is not surprising that there has been a global trend to separate the network, capable of providing such services and facilities, from the many end products, equipment and telephone instruments available to the user.

Service charge

Known as "unbundling" in the industry, this came into effect in Hongkong in October 1985, when after government approval, the rental of the telephone instrument was separated from the service charge for the telephone line.

If customers do not wish to pay the instrument rental they can purchase an authorised telephone or other equipment from Hongkong Telephone's subsidiaries, Communica-

PHONE TRAFFIC OUT OF HK



tion Services Limited or Integrated Business Systems or other vendors.

To facilitate the use of the diverse instruments now available, Plugs and Sockets are being fitted by Hong Kong Telephone so that customers upon purchasing telephones can simply plug in their new purchase for telephone service.

Despite the many changes in the industry the great majority of Hong Kong Telephone's customers comprise the basic "telephone" user.

Even here the benefits of the new digital technology are evident in better and more efficient transmission quality and in a range of new services.

Introduced just this year, Starline Services offers the residential telephone customer a

range of facilities such as abbreviated dialling, appointment services, conference calls and call waiting among others. More facilities are also being looked at and will be introduced when available.

Destinations

International Direct Dialling (IDD) and the International Call Service provided in conjunction with Cable and Wireless (HK) Ltd continue to grow and are available to destinations around the world.

Direct Dialling to China (Fujian Province) commenced in 1983 with similar facilities to Guangzhou becoming available a year later in 1984.

A new fully digital International Call Ex-

change was also opened this year to further provide for both operator assisted and IDD services.

Ever conscious of the need to provide efficient and economic services to the people of Hong Kong, the Company is adapting to the needs of the community.

In a recent reorganisation, Business Units were created to meet the requirements and specific needs of different regions with the emphasis on responding to customers at a local level.

These changes and innovations together with the many new developments and services being introduced, continue to ensure that Hong Kong has one of the most efficient and economic telephone services in the world.

/9317

CSO: 5550/0060

HONG KONG

BRIEFS

HONG KONG-GUANGDONG MICROWAVE LINK--A new high-capacity microwave link between Hongkong and Guangdong province was inaugurated by Cable and Wireless yesterday. The system, which links Hongkong with Guangzhou and Shantou, will eventually span the entire province, according to Cable and Wireless. The first phase will be extended to Haikou on Hainan Island early next year, and then to Sanya in the south of Hainan later in the year, adding 1,800 new telephone channels to this leg of the link-up. According to Cable and Wireless, connection of the system to the existing microwave link between Fuzhou and Xiamen will complete a high-capacity telecommunications highway providing access to all major development areas of Guangdong and Fujian provinces. [Text] [Hong Kong SOUTH CHINA MORNING POST in English 20 Dec 85 p 3] /12851

TELEVISION FROM PRC--Hongkong residents can now switch on their radios and listen to programmes broadcast by a new Shenzhen broadcasting station. The station started broadcasting on New Year Day, and most of Hongkong and Macau areas can receive its programmes. According to the director of the Shenzhen station, Mr Wang Wei, a series of stereo programmes produced by Guangdong People's Broadcasting Station will be broadcast by the station in the initial stage. While construction work is still being carried out, the broadcasting time will be confined to about 7 hours a day, between 5:30 am and 2 pm. Mr Wang told the China News Service that the construction work will be carried out in two stages. In the first stage, they will set up a station with the capability of producing stereo radio programmes. In the second stage, the plan is to expand the facilities to broadcast by medium wave length too. He expects the Shenzhen station to produce news programmes by October this year. [Text] [Hong Kong HONGKONG STANDARD in English 2 Jan 86 p 2] /12851

CSO: 5550/0066

NEW ZEALAND

HACKERS RAID FRENCH DATABASES FOR NUCLEAR TEST RESULTS

Auckland THE NEW ZEALAND HERALD in English 16 Dec 85 p 1

[Text] Auckland computer hackers say they are on the brink of invading scientific data bases in France in search of the results of French nuclear testing at Mururoa Atoll.

But they say they have been handicapped by a lack of knowledge of idiomatic French when trying to break into the data bases.

They see their probing of the data bases as a sort of tit-for-tat deal.

"We didn't get in but there again, we didn't try too hard," said one hacker.

They found the big mainframe computer data bases in France using international computer telecommunications Pacnet numbers.

They also found several French computer networks.

They said a better knowledge of French would help them because experience had taught them that the way people used language could indicate the sort of words they used as passwords.

They identified one database as being that of the computing centre for nuclear physics. Another was apparently being used by a French national research and information institute.

Yet another was a plasma physics institute.

One could be identified only by the initials SACLAY.

They also claimed to have found the British Atomic Energy Research Institute database at Harwell in England.

The Auckland hackers' excursions overseas follow recent reports that they had broken into the Auckland City Council traffic control system and the McNair survey company's database.

The hackers said the traffic control system was broken into months before it became general knowledge and the McNair incursion was pretty ho hum anyway.

They said one of the easiest databases they had broken into recently was the City of Sails videotex system being established by the Auckland City Council.

/9317

CSO: 5500/4322

6 February 1986

PEOPLE'S REPUBLIC OF CHINA

MICROWAVE STATIONS LINK HAINAN TO BEIJING

Hong Kong HONGKONG STANDARD in English 2 Dec 85 Supplement p 1

[Article by Tony Ngan]

[Text]

FOREIGN exchange restrictions and even scandals concerning profiteering officials have not stopped or hindered the progress of Hainan, the island that is almost the size of Taiwan and which is the vital base for offshore oil explorations.

One of the numerous joint venture projects recently concluded but not yet publicised, is a network of 14 microwave stations linking 10 cities and towns on the island to keep the people there in touch with Beijing through TV broadcasts.

The mountainous terrain of the island, which is to the north of Guangdong, together with a lack of relaying and receiving facilities, have meant that Hainan residents have to rely on indirect broadcasts on local stations.

Many of these broadcasts are indirect because videos have to be flown to Guangdong from where they are re-broadcast in order to reach Hainan. This creates a time gap of a day or so between a Beijing broadcast and its reception on Hainan.

As reported in the Hainan Daily, the microwave stations project is one of the latest modernisation plan for which a multi-party contract was signed in May this year.

A Milan-based Italian manufacturer, Telettra Telefonica Elettronica e Radio Spa, has contracted to supply and install the 14 transmitting stations and also provide the technology transfer and staff training.

A Hongkong consultancy and support service company, the E-Tech Engineering Co, has been assisting in the traditionally lengthy negotiations that will lead to the conclusion of the deal.

The consultancy company is run by a veteran television engineer with a team of field experts.

The Chinese signatories to the contract are the Hainan United Trading Company and the Hainan Radio and Television Broadcast Bureau who are the buyers and users, respectively, of the new installations.

The Italian transmitting system will be able to send forward transmission of three colour television channels and one more colour television channel for transmission

backward (feedback), in addition to eight audio channels, the Hainan Daily reported.

All the systems will incorporate the latest in high technology, it continued.

It was also reported that the entire system will be shipped from Italy to Hainan eight months from the signing of the contract, which means that shipment should be made next month.

Other details so far disclosed in the Hainan Daily are that, when completed, the new microwave links will be part of the network for the western part of Guangdong Province.

The 14 microwave stations will be installed at various locations that will effectively link up Haikou, the main port on the island, with Qingshan, Dengan, Linkau, Jin (county), Changjiang, Dongfang, Ledong, Baoting, Sanya and Tungzhi.

The Hainan Daily said the total distance covered by the projected network will be 509 kilometers which will enable TV viewers on the island to receive programmes sent from Beijing in the north, via transmitters in Guangzhou.

Guangdong reportedly has a population of about 60 million, of which about 6.8 million live in Hainan.

In the past 30 years, official reports indicated significant progress in many development projects and some of the annual production targets were, by 1990, 5 million tonnes of iron ore, 0.2 million tonnes rubber, 0.35 tonnes sugar and 3.6 million tonnes food.

Earlier this year, some senior officials in Hainan's administration were caught in a scandal involving abuses of authority in importing cars and consumer goods, using scarce foreign exchange intended for high-tech developments.

However, a newly appointed senior official of the Hainan administrative region, Mr Meng Qingping, told reporters in August that China would maintain its policy of encouraging foreign investment in Hainan despite the earlier scandal.

He said that in the past two years and more, Hainan had completed 15 key basic projects, covering air, land and sea transport, telecommunications, hotels and energy supply.

/9317

CSO: 5550/0062

PEOPLE'S REPUBLIC OF CHINA

FAVORABLE RESPONSE TO PRC SATELLITE LAUNCH OFFER NOTED

Hong Kong SOUTH CHINA MORNING POST in English 26 Nov 85 p 11

[Article by K.C. Tsang]

[Text]

The response to China's recent offer to launch commercial telecommunications satellites into orbit is reported to have been "favourable."

A Hongkong *Wen Wei Po* report from Beijing, quoting Chinese space authorities, said seven countries — including Britain, the US, France and West Germany — are involved in talks with China on possible space launch co-operation.

The latest move by China, to open its once secretive space research programme follows a change in the country's philosophy of turning defence technology into commercial use.

Under the concept, the defence industry will increasingly become a vehicle to generate revenue — rather than a sheer heavy spender of state funds only for defence weapons — to help further development.

Also in line with the new philosophy, more and more of the country's numerous, low-grade military airports are being converted for civilian landings, and at least one new domestic airline has come into existence with the support of the Chinese Air Force in terms of aircraft and personnel.

Another example is the switch of nuclear technology to commercial use with the

participation of foreign countries. Nuclear power plants are being planned from the south to the north along the coast.

China is not the only country that is relying increasingly on its defence industry to generate revenue to finance further research programmes.

According to arms sale research studies, West European countries such as France and the UK are relying on the sale of its telecommunications systems and weapons ranging from conventional to aerospace equipment to keep the expensive research programmes self-financing.

A new strategy is emerging, by which money from the sale of newly developed weapons is secured from foreign countries even prior to commitment to deploy the weapons for the forces at home. This strategy is aimed at lowering the production cost of the equipment in order to make it easier for the Government to fight for procurement.

Although such a strategy is gaining increasing favour with democratic states, where defence budgets always come under close scrutiny by parliamentarians, both the Soviet Union and China are finding the commercial value of their defence and other so-

phisticated communications systems indispensable for long-term development of sophisticated but expensive industries.

Since China launched its first satellite on April 24, 1970, which transmitted the music *East is Red* from space, a total of 17 satellites have been sent into orbit. The first Earth satellite retrieved from orbit was launched on November 26, 1976.

Most of the satellites have been used to gather scientific data from the Earth and in space.

The forerunner of the commercial-based geostationary telecommunications satellite was sent into orbit on April 8 last year by a Long March-2 rocket. The satellite is currently being used for domestic TV and radio transmissions, and telephone and telecast communications.

After an 18-month experiment, China announced in October last year that the country was ready to provide commercial satellite launching of satellites.

The commercial viability of China's aerospace ventures has become a crucial development for the country to improve its broadcast and telecommunications systems.

There are plans afoot to build some 1,000 satellite Earth stations across the

country to reduce the need for less effective, cross-province microwave transmissions above ground.

One way of boosting the development is to generate revenue through commercial operations.

The two-stage, 32-metre-long Long March-2 rocket can carry a two-ton satellite into orbit near the Earth, while the more advanced, three-stage, 43-metre-long Long March-3 has a payload capability of 1.4 tons for loads to be put into long-distance geostationary orbits and three tons for those going into Sun-synchronous orbit, which is closer to Earth.

In a move to inspire confidence in China's commercial space venture, the Chinese

space authorities last month organised a tour of Beijing's Long March-2 assembly plant for space experts from the US, the Soviet Union and 20 other foreign countries.

There were discussions between China and foreign countries on the commercial launching of satellites during the Asian-Pacific Exhibition in Beijing this month.

According to yesterday's *Wen Wei Po* report, the response seemed encouraging as the seven countries are said to have signed letters of intent with China.

The parties explored the possibility of entering into joint ventures in the design and production of commercial satellites, the launching of satellites and development of the aerospace industry.

At present, the three Chinese space centres open for commercial operations are at Jiu Quan, Xichang and Xian, in the northwest. Near-Earth satellites are launched from Jiuquan, while the Xichang site launches long-distance geostationary craft.

The Xian site is used to provide control and tracking services.

For the commercial launching, the Chinese People's Insurance Corp'n will undertake insurance coverage for the ventures based on contractual terms.

Observers believe China's efforts are aimed at capturing a share of the commercial satellite market from developing or Third World countries, which has been handled by the US space shuttle or by the European Ariane rocket programme.

/9317

CSO: 5550/0059

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

BEIJING PHONE CAPACITY--Beijing (Dec 12)--Beijing will double the number of its telephone lines when a new, French-made digital exchange system begins operating next month, the CHINA DAILY said today. It said the new system would give the city 10,000 new dial telephone lines made in China, and 200,000 digital lines from France, concentrated in the busiest districts. The project is part of a scheme initiated 10 years ago. [Text] [Hong Kong HONGKONG STANDARD in English 13 Dec 85 p 3] /12851

CSO: 5550/0065

THAILAND

POLICE TO UPGRADE SATELLITE TELECOMMUNICATIONS

Need To Fight Drug Traffickers Cited

Bangkok MATICHON in Thai 10 Oct 85 pp 1, 2

[Unattributed report: "Police Communications System Is Inferior to That Used By Criminals; a New System Will Be Installed; Satellite Will Be Rented"]

[Text] The Police Department cannot wait any longer. Narcotics traffickers and those who steal cars and motorcycles use modern communications equipment to contact each other and avoid arrest. The department has received 80 million baht to dismantle the old system and build a new system. The department will have its own satellite communications stations and telephone and teleprinter exchanges. Otherwise, suppression operations will achieve very little. The criminals will always know what the police are doing.

On 9 October, Police Lt Gen Pranet Rutthiruchai, the deputy director-general of the Police Department for special affairs, said that in fiscal 1986, the Police Department received 80 million baht to upgrade the department's communications and telecommunications systems. The Police Department will build mobile satellite communications stations using vehicles. These will be used in issuing orders nationwide during emergencies.

"The Police Department has always had to rely on a satellite channel of the Telephone Organization of Thailand. But with this budget allocation, the department will rent a satellite channel directly. Besides this, we will also ready communications equipment such as telephone and teleprinter exchanges in order to facilitate communications," said Police Lt Gen Pranet.

Police Lt Gen Pranet said that the Police Department must quickly upgrade its communications system because many criminals are now using modern communications equipment in committing crimes. In particular, communications radios are used frequently. This makes it difficult for the police to make arrests. Furthermore, those who steal cars and motorcycles use advanced communications systems. They can use this equipment to contact each other and prevent the police from trailing them. And they can quickly provide details on vehicle modifications.

Besides this, the communications equipment used by narcotics traffickers is much more modern than that used by the Police Department. They use the same system as that used by the military. Casinos now use radios with their own special codes. They even use closed-circuit television in order to prevent the police from suppressing their activities.

"Unless the Police Department improves its communications to keep up with the criminals, there will be no chance of the suppression operations achieving results. The Japanese government has sent experts to help us improve our system. At present, a detailed project proposal is being prepared. It will be submitted to the Japanese government in order to formulate installation plans," said Police Lt Gen Pranet.

Police General Comments

Bangkok SIAM RAT SAPDA WICHAN in Thai 3 Nov 85 p 32

[Article by Thai Pracha: "Improve Police Communications in Order To Display Suppression Results?"]

[Text] The recent statement by Police Lt Gen Pranet Rutthiruchai, the deputy director-general of the Police Department for special affairs, should have been very welcome news to honest people and very bad news for the criminals who infest our country. Police Lt Gen Pranet, who has refused to give in to the criminals, who cause trouble for the people and give suppression officials headaches, announced in the mass media that in fiscal 1986, the Police Department will receive 80 million baht to upgrade the Police Department's communications and telecommunications system.

The Police Department will establish mobile satellite communications stations using vehicles for use in issuing orders nationwide during emergencies, which includes riots both inside and outside the prisons.

The deputy director-general of the Police Department for special affairs said that "the Police Department has always had to rely on a satellite channel of the Telephone Organization of Thailand. But with this budget allocation, the department will rent a satellite channel directly in order to facilitate coordinating things. Besides this, we will also ready our own communications equipment such as telephone and teleprinter exchanges so that we can carry out our duties more efficiently."

Anyone who is thinking of turning to crime in coming years should think twice about that. Criminals will no longer be able to escape because of the outmoded equipment used by the police. From now on, criminals will be caught much quicker. People should not try to test the efficiency of the police officials. That could ruin their future.

The Police Department has to improve its communications system quickly because many criminals are now using modern communications equipment in committing crimes. In particular, criminals frequently use communications radios, including those who have obtained permission to use such radios and those who have not. Some do so using the influence of politicians. In such cases, the

officials do not dare arrest them because they are afraid of the influence of the politicians. Such radios are in fashion. These people boldly carry the radios with them all the time and even go into stores with them.

As more and more criminals begin using radios in committing crimes, the police will find it more and more difficult to track them down and arrest them. The equipment used by the criminals is much more modern and efficient than used by the police. For example, the gangs that steal cars and motorcycles use a communications network. They can communicate with each other to prevent the police from trailing them. And they can quickly provide details on the modifications made to the stolen vehicles. Unless officials check the engine number, they would never know that it is a stolen vehicle. Within a week, the vehicles look totally different.

It is well known that there are many types of crimes. And each criminal will search for ways to keep from being arrested. And so they try to obtain communications equipment that is just as modern or even more advanced than that used by the police. They have to spend money to develop their communications equipment and weapons. Only petty criminals refuse to invest in this. They are not very clever and so it is easy for officials to arrest them.

Petty criminals and those who steal because they can no longer bear their poverty are not as worrisome as those who form gangs and earn their living from crime. These people are in and out of prison so frequently that they get to know the prison guards quite well, including those at the Bang Khwang and Khlong Prem prisons. These people are very dangerous. It's essential that the police suppress them. They must not be allowed to terrorize honest people. People will sleep more comfortably knowing that such criminals are in prison.

I am glad that the Police Department will receive 80 million baht to upgrade its communication system so that it can keep abreast of the crime situation and have equipment that is just as efficient as or even more advanced than that used by the criminals. If this is done, taxpayers will feel that the government is giving attention to relieving the suffering and promoting the happiness of the people. The police will be able to display their skills and gain respect. They will be able to improve their image and make the people see that today's policemen are sincere about reducing the crime problem.

What is certain is that if the Police Department does not take steps now to improve its communications technology, there will be little chance of hitting the crime suppression targets. They will just have a few "numbers" that they can brag about, but this will not help reduce crime.

I have seen pictures of communications equipment seized from narcotics traffickers and casino operators. These pictures were very interesting. These criminals use the same communications system as that used by the military. They have their own codes. They can immediately issue instructions about whether to advance or retreat or shift course. Because of this, the police frequently fail to catch the criminals. It is no longer necessary to use police agents to infiltrate the gangs. That is an outmoded method. Communications equipment must be used. I can assure you that there won't be

any betrayals. And it won't be necessary to pay allowances or salaries. This will save a huge sum of money.

The criminals can listen to police broadcasts about planned police raids. This has been going on for more than 10 years. The Police Department just found a way to solve this problem by asking for funds, which were finally approved. It's good that the Police Department will have something new that they can use to help the people in 1986. This news has made me feel much better.

11943

CSO: 5500/4316

THAILAND

STRONG BURMESE TV SIGNAL ATTRACTS VIEWERS, WORRIES REGIME

Bangkok THAI RAT in Thai 23 Sep 85 pp 1, 18

[Excerpt] People living along the Thai-Burmese border in Mae Sot, Mae Ramat, Tha Song Yang, Phop Phra and Umphang districts in Tak Province like to watch Burmese television programs, which can be picked up on Channel 6, because they can receive clear color pictures without having to have use a signal booster. This is different from the pictures received on channels 5, 7 and 9 and Lampang Channel 8. The pictures received on these channels are not clear even when a booster is used. The picture from Burma is much clearer.

Mr Anan Khomkham, the manager of the Mae Sot Radio Shop in Mae Sot District, said that Burmese color TV station 6 in Rangoon broadcasts the TV signals to a relay station in Moulmein, which is about 100 km from the Thai border. This station uses a Japanese ETSC transmitting system. Japan has provided help free of charge. This system is valued at more than 100 million baht. Channel 6 is the only channel to broadcast nationwide. It has been in operation for 1 year now. It broadcasts mostly domestic and foreign news programs and Burmese, Japanese, Chinese and Western movies. There is no advertising. Initially, the TV signal was not clear. But Burma improved things and now the signal is very clear. Thai who live along the border have begun watching Burmese TV programs instead. Television sets are selling very well on the black market.

Mr Prasoet Saraphan, the head of the Voice of Thailand radio station in Mae Sot District, said that in cooperation with the Northern Region 2 Public Relations Center, the VOT radio station collected data and sent the findings to the Department of Public Relations in order to ask that a relay station be built to relay signals from Bangkok, improve the signals and encourage the people to watch Thai TV programs. Otherwise, in the future, this could have a bad effect on the people who live along the Thai border

11943

CSO: 5500/4316

CANADA

TELECOM CANADA MERGES VOICE, DATA CONTROL CENTERS

Toronto THE GLOBE AND MAIL in English 13 Dec 85 p B16

[Article by Lawrence Surtees]

[Text]

OTTAWA

Telecom Canada has merged its voice and data control centres into one national network monitoring facility, reflecting the integration of telecommunications and computer technology.

By taking the centres out of the basement at Place Bell Canada and merging them in trendy quarters on the ground floor, Telecom Canada hopes to provide its nine member telephone companies with better analysis and management services.

The managers of the National Network Operations Centre, which opened last week, monitor the performance of voice and data networks owned by the member companies. There is more than \$24-billion invested in those networks, with an average of \$2-billion added each year.

Loudspeaker messages, technicians glued to terminals and two giant maps that show the second-by-second status of the networks — used by more than 20 million people — make the centre look a bit like mission control for a space launch.

The NNOC uses sophisticated technology, including computers, sensors and satellite communications to monitor the countrywide grid, which has more than 180 million kilometres of cable, microwave, fibre optics and satellite links.

As well as 24-hour surveillance, the NNOC provides daily, weekly and monthly reports on trends and network quality to company presi-

dents and the president of Telesat Canada. Telesat, the domestic communications satellite operator, also belongs to Telecom Canada.

"Because of the ability to computerize network data in real-time, we can also provide better historical analysis of the data to spot trends so that telephone company executives can better manage their networks," said Trennick Martin, manager of the network operations section.

"The NNOC is also the final point of arbitration in the resolution of a technical problem, particularly if it involves the equipment of two or more telephone companies. And we are involved with the military and government bodies in planning for disaster, war, insurrection or terrorist attack."

The NNOC staff are technicians seconded from member telephone companies. Those working with Mr. Martin in network operations supervise long-distance voice, microwave radio and television communications. Staff working with manager Bob Petzold handle data network control.

The voice network is monitored by remote sensors in telephone companies' switching centres. These buildings, called central offices, contain the gear used to route subscriber telephone calls.

The operators use computer terminals hooked up to the network to determine the location and nature of a fault. In front of them is a large map of Canada; digital readouts and indicator lights on it flash red when trouble occurs.

"We mainly play the role of Big Brother, overseeing the network

and assisting the member companies in solving problems or rerouting traffic because of changes in demand," Mr. Martin said.

A technician can pinpoint the source of trouble right down to a specific printed circuit card in a switch. The ability to control and monitor the voice network in such detail is limited by the extent to which the companies have "digitized" their networks. A digital telephone switch is a large computer with software that not only handles the device's job but also permits links for diagnosis and maintenance.

Telecom Canada has also developed a monitoring system for the fibre optic lines that are increasingly appearing.

The data network, on the other hand, is fully digital. It is used to send messages to and from computers that only understand information in this form.

The national data network control centre monitors the two computer communication networks that span Canada — Dataroute and Datapac.

Dataroute is used by large customers who want to send significant volumes of data between 100 linked domestic locations. Datapac is suited to the general public and has been adopted throughout the world as the X.25 packet switching standard. Both services are marketed nationally by Telecom Canada.

The data network technicians also solve technical problems and compile analytical reports of trends and traffic patterns.

CANADA

TELECOM CANADA OFFERS iNET 2000 DATA BASE SERVICE

Ottawa THE CITIZEN in English 16 Dec 85 p B9

[Article by Greg Barr]

[Text]

Canadians with access to a microcomputer or video terminal can now browse electronically to find database information on hundreds of topics including census statistics, the latest RRSP rates or even a list of Civil Court proceedings against your neighbors, using the commercial version of iNet 2000, the information management network operated by Telecom Canada.

Telecom Canada had operated the service on a trial basis for an 18-month period which ended Aug. 10, and during that time signed up 5,300 customers, including 3,500 outside Telecom Canada's member companies. Telecom Canada is the association of Canada's nine major telephone companies and domestic satellite carrier Telesat Canada.

Al Syberg, Telecom Canada's iNet 2000 section manager, said the service has been available on a commercial basis since Nov. 29, when the Canadian Radio-television and Telecommunications Commission (CRTC) approved new tariffs for the service.

"We expect to sign up about 25,000 customers in 1986," said Syberg, who declined to say exactly how much revenue Telecom Canada would derive from iNet, saying only that it would be "significant."

In essence, iNet acts as the "gateway" to the 1,300 databases on the system, allowing the customer to search through database

lists until the appropriate one is located.

The databases available include statistics, news, financial services, consumer information, catalogues and shopping, provided by more than 50 companies, including several from the United States and Europe.

Business customers can access databases containing stock quotations from major stock exchanges, with the ability to calculate moving averages and trend lines; market trends and demographics; financial product rates such as RRSPs, GICs and mortgages; and financial management packages.

Some of the more obscure databases include the Official Airlines Guide (OAG) containing information on all direct flights operating worldwide; a trilingual English-Spanish-French engineering technical dictionary; and TELECHO, a legal database containing information on Civil Court cases pertaining to companies and individuals in Canada, showing all liens or legal proceedings registered against anyone selected.

While the cost to use the iNet system during the trial phase involved an intricate formula based on the number of characters — each letter or number viewed on the screen — and the amount of time the customer had signed onto the system, Syberg says the new tariffs approved by the CRTC simplify the situation.

To use the iNet service, custo-

mers pay \$15 an hour. This includes the time spent searching for databases and built-in tutorials on how to use the system, listing information and working on any documents "copied" electronically that the customer wishes to edit or print. The system also includes Telecom Canada's Envoy 100 electronic messaging service.

Once inside a database, the Telecom Canada rate switches to \$6 an hour for domestic databases, \$9 for databases originating in the U.S., and \$45 for European databases — though some database providers pay the \$6 hourly fee as a service to customers.

On top of that, the customer pays \$20 to over \$150 an hour to the company that offers the database, with some charging an hourly rate plus a charge for every block of 1,000 characters read.

With a base of 25,000 customers, an average monthly iNet bill of about \$400, for example, would generate revenues of \$10 million a month, though the majority of those fees goes to the company providing the database which has been selected.

In addition, Telecom Canada charges a \$3 monthly access fee to each customer to ensure a commitment to the system. "If (having access to iNet) was totally free, you'd be deluged with users but no usage," said Syberg.

A five-per-cent discount is offered to customers with monthly access charges of more than \$5,000, with a 10 per-cent discount offered to customers with monthly bills of more than \$10,000. There are also discounts for use of the system during off-peak hours.

Customers with the required computer hardware and telephone modem, which sends the electronic data over telephone lines and allows the computer to communicate with the database, can negotiate direct hook-up to a particular database with the database provider. However, Syberg said this doesn't mean iNet would be discarded if a customer felt comfortable with one particular database rather than having access to the whole system.

"The functionality we've added to the iNet system makes it more than just a database in itself.

/9274

CSO: 5520/61

6 February 1986

CANADA

NORTHERN TELECOM TO SELL TELEPHONE SWITCHES, PBX TO CHINA

Switches To Beijing Telephone

Toronto THE GLOBE AND MAIL in English 22 Nov 85 p B3

[Article by Lawrence Surtjes]

[Text.]

Northern Telecom Ltd. of Mississauga, Ont., received its first contract from a telephone company in China with the sale of three switches to the Peking telephone administration.

Each of the DMS-10 switches, to be installed by the end of the year, has the potential to serve up to 8,000 subscriber telephone lines. Peking's phone company will, however, hook up 2,000 individual telephone lines and 480 intercity trunk lines to each switch.

The value of the contract was not disclosed.

The DMS-10 switch is a computer-controlled switch that routes telephone calls to their destinations. Because it is digital, it can switch

traffic between computers in addition to conventional voice signals.

Unlike Northern Telecom's larger digital switches, the DMS-10 is intended for use in rural or isolated locations, or as emergency backup for the larger switches in urban centres.

The Peking telephone administration will house the DMS-10s in portable trailers, which means the switches could be used in other locations.

The contract "represents a significant development in the establishment of modern digital telecommunications in China," said Hugh Hamilton, president of Northern Telecom Pacific, the Tokyo-based subsidiary of the telecommunica-

tions manufacturer.

The contract transcends its face value because it represents Northern Telecom's first sale to a Chinese phone company. The Chinese leadership has given telecommunications key priority in efforts to modernize its industrial and economic infrastructure.

With a population of more than one billion and only three telephones per 1,000 people, the potential telecommunications market is enormous.

Although the contract is a local initiative, acceptance of the switch by the Peking telephone administration could possibly lead to further contracts from other regions in China.

PBX To Civil Aviation

Toronto THE TORONTO STAR in English 3 Dec 85 p E6

[Text.]

Northern Telecom Ltd. says it has been selected to supply its digital SL-1 private branch exchange to the Civil Aviation Administration of China.

The 2,400-line system will be installed at the Bai Yuen Airport, making it the first Chinese airport

to use a fully digital private branch exchange, Northern Telecom says.

The SL-1 is the largest-selling fully digital private branch exchange in the world, with more than 15,400 systems serving more than 4.5 million lines in 61 countries, the company says.

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CSO: 5520/61

CANADA

CRTC HEAD URGES PASSAGE OF BILL REGULATING BELL CANADA

Toronto THE GLOBE AND MAIL in English 19 Dec 85 p B9

[Article by Lawrence Surtees]

[Text]

The provisions of the proposed Bell Canada Reorganization Act are "urgently needed" so that the Canadian Radio-Television and Telecommunications Commission can regulate the utility's telephone rates, says CRTC chairman André Bureau.

Testifying before the Parliamentary Standing Committee on Culture and Communications, Mr. Bureau called for swift passage of Bill C-19 because of the hearing scheduled for early next year to consider a general increase in Bell's monthly rates.

The proposed legislation arises from the corporate reorganization of Bell Canada, which was approved by utility shareholders in 1983. Under the change, the utility became a subsidiary of publicly traded Bell Canada Enterprises Inc. of Montreal.

However, the reorganization under the Canada Business Corporations Act also resulted in a conflict with the Bell Canada Special Act of 1880. The special act is now BCE's articles of incorporation and the proposed legislation attempts to reaffirm the earlier restrictions and prohibitions.

The reorganization bill was first put before Parliament by the government of former prime minister

Pierre Trudeau, but has never cleared final reading.

"This bill is important because it deals with the commission's basic legislative authority to regulate effectively the largest telephone company in Canada," Mr. Bureau told the committee Tuesday night.

Bell provides service to more than seven million subscribers in Ontario, Quebec and parts of the Northwest Territories. It will apply in February to the CRTC to raise its monthly rates.

"The purpose of the Bill is not to increase the CRTC's jurisdiction over Bell, but simply to ensure that the CRTC's mandate to regulate (it) can be as effectively pursued after the reorganization as it was prior to the reorganization. Without the regulatory tools contained in Bill C-19, the reorganization of the Bell group of companies could result in increased rates for Bell Canada's subscribers."

BCE and Bell have always denied that the reorganization would have any effect on telephone rates.

However, Mr. Bureau said that, without the legislation, the CRTC could not ensure that the goods and services obtained by Bell from its affiliates are not overpriced and that the sale of services by Bell to its affiliated companies are not underpriced.

For the CRTC, Bell and BCE, there are two other important provisions in Bill C-19.

One section would give the CRTC the legal power to obtain information from the unregulated parent company — BCE — that is relevant

to regulating Bell. And two other sections would give the CRTC the power to either direct Bell to divest a regulated undertaking to the unregulated sphere of its parent or to compel an unregulated activity to be placed under Bell's control and therefore regulated.

BCE chairman and chief executive officer, A. Jean de Grandpré, also appeared before the committee on Tuesday. He specifically attacked the two provisions, but also voiced general concerns about the bill.

"The first is that Bill C-19 would needlessly impede the competitive activities of BCE and its unregulated companies. The second concern is that Bill C-19 is not consistent with the . . . policy of the present Government, which appears to be to reduce regulation," Mr. de Grandpré said.

He added that the bill would give BCE's international competitors an advantage because they are not subject to similar restrictions, either in Canada or abroad. He also criticized the bill for "singling out BCE for unfavorable treatment"

and said its provisions should apply equally to all.

Raymond Cyr, chairman of Bell Canada, told the committee the bill would give the CRTC "the authority virtually to order the dismantling of the company," and he stated that the proposed powers should be reserved for Parliament and the courts.

He said the bill would place too many business decisions in the hands of the regulator and denied that the CRTC has had any problems in regulating telephone rates, "even without Bill C-19."

The bill was given first reading on Dec. 20, 1984, and is expected to receive third and final reading in the New Year. However, reports from Ottawa late last week indicated that the federal Government may propose further amendments to the bill in January prior to a clause-by-clause debate in the House of Commons.

/9274
CSO: 5520/61

CANADA

BCE PRESIDENT ON TELECOM CANADA BID FOR TELEGLOBE

Toronto THE GLOBE AND MAIL in English 10 Dec 85 p B4

[Article by Lawrence Surtees]

[Text]

The acquisition of Telelobe Canada by the telephone companies would strengthen Canada's position internationally, says A. Jean de Grandpré, chairman of Bell Canada Enterprises Inc. of Montreal.

BCE's utility arm, Bell Canada, joined forces earlier this year with the other eight telephone company members of Telecom Canada in a joint bid to buy the international communications carrier from the federal Government.

Mr. de Grandpré made a public pitch for the sale of one of the most profitable Crown corporations owned by Ottawa to the telephone companies at a luncheon address yesterday to members of the Canadian Club.

In defending the bid, however, he denied there would be any negative effects or deleterious public policy issues arising from such a sale.

For example, the Ontario Government has argued in a brief that the federal Government should address the issue of concentration of ownership. Telelobe is also a signatory to several international treaties and yet to be considered is how Ottawa would reconcile that role with domestic regulation of the company by the Canadian Radio-Television and Telecommunications Commission.

For the telephone companies, ownership of Telelobe would allow them to provide service, and gain revenue, from the more than 130 countries hooked up to Telelobe's

gateways. The nine telephone companies only provide service to and from the United States and the Caribbean, in addition to domestic service. Telelobe had profit of \$42.5-million on revenue of \$495-million for the nine months ended Sept. 30.

Telelobe's international strengths "would be enhanced by Telecom Canada's strengths in technology and marketing," Mr. de Grandpré said.

As a sweetener in its bid, Mr. de Grandpré said the telephone companies would seek to "reduce international (phone) rates paid by Canadians," although he did not describe how they would do that or whether they would need regulatory permission.

"The Canadian carriers are in the best position to make this commitment because, together with Telelobe, they set and charge the international rates," he said. More than 18 other companies, pension funds and investment entities are rumored to have submitted bids for Telelobe.

Mr. de Grandpré also said the telephone companies would limit their combined equity stake in Telelobe to 65 per cent, setting aside the rest for Telelobe employees and the general public. Telelobe employees have also submitted a bid.

He said all other communication carriers in Canada, such as CNCP Telecommunications of Toronto, would also be able to own a stake and would not be denied access to Telelobe's network.

/9274
CSO: 5520/61

CANADA

CNCP MAKES SECOND BID FOR RIVAL TELEPHONE SERVICE

Toronto THE GLOBE AND MAIL in English 20 Dec 85 p B16

[Article by Lawrence Surtees]

[Text]

CNCP Telecommunications has begun a second bid to provide long-distance service in competition with Canada's two largest telephone companies.

In an application filed yesterday, CNCP asked its federal regulator to change the decision of Aug. 29 that rejected the company's earlier bid to compete against Bell Canada and British Columbia Telephone Co.

Both telephone companies are also regulated by the Canadian Radio-Television and Telecommunications Commission. Bell is the utility arm of Montreal-based Bell Canada Enterprises Inc. and B.C. Tel is based in Burnaby, B.C.

In addition to asking the CRTC to review its decision, CNCP filed a new business plan that attempts to overcome some of the deficiencies the commission found in the first application. CNCP originally applied to the CRTC on Oct. 25, 1983, to provide cheaper long-distance service to the nine million subscribers served by Bell and B.C. Tel in Ontario, Quebec, British Columbia and parts of the Northwest Territories.

"In August, the CRTC said it did not think that CNCP could pay a contribution to the telephone companies to make up for lost revenue and still be profitable. We show we can," said Joseph Schmidt, CNCP vice-president of regulatory and governmental matters.

"The basis of our return to the regulator has to do with new matters arising from the CRTC decision and due to matters that were dealt with at the earlier public proceeding but were not mentioned in the decision," he said in an interview.

To justify a review of the 125-page decision, CNCP lawyers C. R. Munro and Michael Ryan rely on a section of the National Transportation Act. The act gives the CRTC its powers regarding telecommunications regulation and section 63 states that the commission may review, change or alter any of its decisions. The CRTC may also hold another public hearing before making a second decision.

CNCP's lawyers argue that there are three

grounds on which to change the earlier decision: it gave rise to a "new principle," the CRTC "failed to consider" a principle raised in the hearing last year, and "there are grounds for substantial doubt as to the correctness of the decision."

The application states that the CRTC developed a new principle when it said the telephone companies' subsidy from long-distance revenue used to keep local rates low should be frozen. The CRTC also assumed that CNCP would pay a fixed contribution to the telephone companies of 30 cents a minute for the first 10 years of service to make up any shortfall in the companies' revenues.

But because the CRTC has frozen the total amount of the telephone company subsidy, CNCP said it was wrong to assess its financial viability based on a fixed contribution. If the total amount that would have to be made up is fixed, then the per minute amount could actually decline if demand increased, the CNCP application says.

The company also states that the CRTC did not consider its evidence that new technology threatens to put it out of business unless it is allowed to compete with the telephone companies in new ways.

And, in doubting the correctness of the CRTC decision, the CNCP application says the commission did not properly evaluate the arrangement under which the company could get access to the telephone companies' networks. It also argues that the commission did not properly consider the economic realities faced by new entrants or the contributions that should be paid in relation to sound cost accounting principles.

The new business plan developed by CNCP takes these matters into account in developing new cost projections and subsidy plans.

In addition to asserting the financial viability of CNCP, the business plan also changes an earlier proposal to phase service in over a 10-year period. One reason given by the CRTC in rejecting the earlier bid was that social policy dictates that telephone service be universally available.

CNCP now proposes to offer "universal delivery" of its competitive service in the two companies' territories by the fourth year of service.

CANADA

BELL CANADA TO MARKET TELEPHONE ANSWERING FRANCHISES

Toronto THE TORONTO STAR in English 27 Nov 85 p E1

[Article by Fred Lebolt]

[Text] Like McDonald's and Canadian Tire, Bell Canada has decided to jump into the franchise business.

But instead of hamburgers or hardware, Bell's franchise plans will take it into the billion-dollar-a-year telephone answering service business across North America.

Bell said yesterday that it is setting up a new subsidiary, Protocol Message Management Centres, which will offer franchises to existing, independently owned telephone answering service companies in both Canada and the U.S.

Under the plan, telephone answering service bureaus would pay up to \$25,000 plus royalties to become a franchisee in the Protocol chain.

In return, they will receive, among other things, consulting services, market research, advertising, a computer and software.

Although Bell already supplies telephone answering companies with equipment and services, this is its first direct foray into the market.

Protocol chairman Pierre Chagnon said the company does not have immediate plans to open its own answering service operations, but it will have the right to buy out franchisees who want to sell.

Bell began work on Protocol a year and half ago, and the service is slated to begin operations in January, with offices in Toronto and Washington, D.C.

It's estimated that telephone answering bureaus in Canada and the U.S. serve 1.5 million clients. There are about 300 medium-to-large answering service bureaus in Canada--answering telephones for doctors, lawyers, and other customers--and some 3,000 such firms in the U.S.

(In Metro Toronto, the Telephone Answering Service heading in the Yellow Pages takes up six pages of ads.)

/9274

CSO: 5520/61

MITEL REPORTS INCREASED THIRD-QUARTER LOSSES

Toronto THE TORONTO STAR in English 20 Dec 85 p E4

[Text] Kanata-based Mitel Corp. reports a soaring third-quarter operating loss of \$14.8 million, or 42 cents a share, versus a year-earlier net loss of \$4.3 million, or 17 cents.

A \$761,000 tax credit brought the net loss in the most recent quarter to \$14.0 million, or 40 cents.

But revenue for the quarter ended Nov. 22 rose to \$107.7 million from \$98.1 million, the manufacturer of telecommunications equipment and semiconductor devices says in a news release.

During the quarter, Mitel recognized a \$9.6 million gain from the proceeds of a 1983 public offering by Trillium Telephone Systems Inc., a 70 percent owned subsidiary of Mitel. Mitel says it delayed recording the gain because of rights, now expired, to convert the shares into Mitel common shares.

Mitel's nine-month operating loss was \$41.3 million versus \$32.2 million, or 96 cents a share, a year earlier. Figures for the most recent period exclude a \$5.1 million extraordinary loss because of plant consolidations and the extraordinary gain from the tax credit, which made the net loss \$45.7 million, or \$1.30 a share.

Revenue rose to \$296.4 million from \$263.3 million.

Third-quarter losses were due primarily to an \$11.8 million provision for inventory obsolescence "not related to the company's main product lines," says Anthony Griffiths, president and chief executive officer.

/9274

CSO: 5520/61

ARGENTINA

PLAN TO INSTALL 1,000 TELEPHONES DAILY ANNOUNCED

Buenos Aires CLARIN in Spanish 6 Nov 85 p 44

[Text] The commencement of a program to install one thousand telephones per day, the collection to date of 150 million australes through the MEGATEL Plan and the inauguration of the second stage of the 500 thousand telephone line installation program were announced to the press yesterday by Jose Alberto Guerra, general manager of ENTEL [National Telecommunications Enterprise].

The ENTEL official described to a press conference "the enthusiastic acceptance of the plan by subscribers, which has made it possible to sell, as of 7 October last, new telephone installations in the amount of 150 million australes."

Guerra explained that the second stage of ENTEL's installation program begins "with the offer for sale throughout the country of a half million telephone lines, which, over the next five years, will bring the total number of lines installed to more than one million."

He also said that "the inauguration last Monday of the program to install one thousand telephone lines per day, was a complete success. On the very first day we installed 970 instruments. This is a clear indication of the willingness of ENTEL personnel to make every effort to achieve the plan's objectives."

After making it clear that "the only way to obtain a telephone line is by signing up with the MEGATEL Plan, which charges subscription fees of 25 australes for private residences and 50 and 84 australes for professional persons and businessmen respectively in districts with 30 month financing," he added that within a short time charges will also be established for cities with more than and with fewer than 1,500 inhabitants.

Second Stage

In key areas of the Centro region (which includes the federal capital and environs), service will be increased to the Villa Urquiza exchange during the second stage in 1986 by 2,700 lines to a total of 12,700; to the Villa Lugano exchange by 300 to 5,300, and the Nunez exchange will receive 1,300 new lines for a total of 11,100, which will be installed in 1987 and 1988.

In Adrogué 2,400 lines will be added in 1986, bringing the total to 12,400, and Ciudad Evita will receive 1,100 for a total of 8,100. Between 1987 and 1988 5,900 telephones will be installed in Isidro Casanova, in Tablada 6,000 for a total of 10,000, and in Morón 9,000 to a new total of 17,000.

East Central and Northeast

In the east central region, which includes locations in Buenos Aires and La Pampa provinces, 2,100 new lines will be installed in Necochea, 1,150, in Quequen, 700, in Pehuajo, and 50 in Caleufu.

The districts of Charata and Villa Angela (Chaco province) will receive 100 and 400 telephones respectively; Vera (Santa Fe) 500 and Obrera (Misiones) 400. These populated centers belong to the litoral region which includes Corrientes and Formosa.

Northwest and Patagonia

The principal centers of the Northwest which will receive new lines are San Salvador de Jujuy, 1,900, Arroyito (Córdoba), 400, San Luis, 3,900, and the Chateau Carreras district (Córdoba), 4,500.

For the Patagonia region the program calls for 400 new lines for Allen and 3,200 for Bariloche (Rio Negro), 1,000 for Coronel Pringles and 2,000 for Punta Alta (Buenos Aires), 2,400 for Rio Grande (Tierra del Fuego), 10,000 for Comodoro Rivadavia and 3,000 for Rawson (Chubut).

Between now and 1989 the Central region will receive 341,450 new lines, Central East, 44,370, the Litoral region, 44,780, Northwest, 23,840 and Patagonia, 28,030.

Details of the New Plan

ENTEL has reminded the public that the only way to obtain a telephone line is through the MEGATEL Plan, however since, under that system those customers who applied for telephones 10 or 15 years ago have first priority, it was stressed that "all pending matters should be taken up with MEGATEL".

Those holding pending applications should also subscribe to the plan and pay their first installment before the 15th of this month. Furthermore we have recently learned that ENTEL will increase or reduce the number of lines available at a given time in accordance with the demand which will have been registered by the 15th of this month. It will also publish quarterly progress reports to facilitate public checking of advertised plans, and it will return the adjusted value of deposits made by any potential customer in the event that the application is rejected.

Applicants whose surnames begin with the letters N to P may enroll until the 8th of this month, following which those whose surnames begin with Q to Z may enroll from the 11th to the 15th. From the 15th to the 21st, enrollments will be accepted on presentation of identity documents at ENTEL commercial service offices servicing the domiciles of those applying.

BOLIVIA

MNR SUPPORTS CANCELLATION OF CHANNEL 11 LICENSE

PY101831 La Paz Cadena Panamericana in Spanish 1130 GMT 9 Jan 86

[Text] The Nationalist Revolutionary Movement [MNR] Press Committee a few hours ago expressed strong support for the ministers of communications and information for recovering the antennas of the state radio station. The committee issued the following communique:

In view of the smear campaign that representatives of Channel 11 of La Paz have launched in an attempt to prevent government officials from enforcing administrative measures according to their specific legal duties, the MNR National Press Committee informs the public and the MNR followers that it strongly supports the ministers of communications and information, the communications undersecretary, and the director of Radio Illimani, who have recovered the antennas and transmission unit of Radio Illimani. This crime, which involves usurpation of state property, is punishable by the penal law. In addition, in agreement with a multinational company that serves foreign interests, Channel 11 has introduced equipment and films into our country without authorization and in violation of existing regulations. Channel 11 also did everything to obtain an operation authorization at a time when the Movement of the Revolutionary Left regime was stepping down. This authorization was granted for political reasons through a resolution signed by the appropriate minister on 25 August 1985, without approval by the technical departments.

It is clearly necessary to set regulations and technical standards for the operation of television stations, for the benefit of the nation's culture and information network.

Therefore, the decision to cancel the operation license of Channel 11 is totally valid and deserves public support.

La Paz, 6 January 1986.

The document bears the signature of Carlos Ponce Sanjines, who is the president of the MNR Press Committee and also the MNR National Executive Board secretary.

/9365
CSO: 3348/361

BRAZIL

TENSIONS IN U.S.-BRAZILIAN RELATIONS EXAMINED

Rio de Janeiro O GLOBO in Portuguese 9 Jan 86 p 3

[Editorial: "Contrived Tension"]

[Text] Brazilian-U.S. relations are particularly tense because of problems in three areas: 1) the monopoly on the computer market, which is a bilateral dispute; 2) the upcoming GATT negotiating round, which is a multilateral dispute; and 3) the foreign debt.

The attitude of Itamaraty and other government sectors is increasingly challenging and less conducive to dialogue with our largest trade partner and main creditor.

The bilateral dispute has its source mainly in the protectionist pressures of the U.S. Congress. These pressures have been resisted by President Reagan, as he did in the case of Brazilian shoes. But the fact remains that President Reagan hurriedly invoked Section 301 of the Commerce Law in the computer case with Brazil, which in fact created a situation that should be side-stepped rather than made worse. The Americans know that the Brazilian Government does not have much room to maneuver on account of the Brazilian Informatics Law. But there is no other way than to go through with the ritual of discussing the problems between the two countries, at least to simply affirm their respective positions again.

However, there are sectors in the Brazilian Government that are reluctant to talk, because they consider talking to be a sign of weakness that is detrimental to national sovereignty. Or perhaps this reluctance is no more than a behavioral expression of an inferiority complex.

The Americans are proposing a meeting for late January or early February, anywhere in the world and dispensing with publicity. They need to hold that meeting to comply with the formalities of their law. To refuse to attend a meeting, even just to confirm the Brazilian position, will leave the way open for a virtually imperative retaliation. And then, if that retaliation is imposed, the fact will be exploited here and will lead to reciprocal recriminations that will poison relations between the two countries, which seems to be the objective of some officials.

Foreign Minister Olavo Setubal, who has already entered the electoral campaign, might not exert himself to bring about a reasonable solution. Ambassador Correia da Costa, in turn, does not seem to be warning Itamaraty sufficiently about the risk of a more serious cooling of relations with the United States. And those who want to see the circus catch fire can hardly wait.

The U.S. answer should be given in the next few days. If the answer is negative, it will just create a stalemate and upset relations.

At the new round Of GATT negotiations, the United States wants to extend the GATT rules, now applied to goods trade, also to the service trade. Leading a group of underdeveloped countries, Brazil has been stoutly opposed, since 1981, to even discussing the matter, thus creating a climate of confrontation with the Americans. The latter mainly complain about the unnecessarily aggressive and inconsiderate rhetoric of the Brazilian representatives.

On the foreign debt issue, it is obvious that the U.S. good offices (those of the Treasury and Federal Reserve Board) before the banks, the IMF and the World Bank, are relevant for conducting the negotiations. Misunderstandings, unwarranted rhetoric, and lack of courtesy do not help and only contribute to a crisis situation that may lead to what the leaders of the bank functionaries are avowedly seeking: the nationalization of banks, as happened in Mexico in 1982, forced by the crisis.

/9871

CSO: 3342/59

BRAZIL

BRASILSAT 2 LAUNCHING RESCHEDULED FOR 26 FEBRUARY

PY201603 Sao Paulo FOLHA DE SAO PAULO in Portuguese 15 Jan 86 p 29

[By Mauricio Bonas]

[Excerpt] The launching of Brasilsat 2 had initially been scheduled for August 1985. It was postponed until December. Less than 30 days before the new date, its launching was postponed until 14 February, but the rescheduling did not stop there: It was decided last week, after several meetings of Embratel directors with technicians of the Canadian Spar Aerospace Company and of the U.S. Hughes Satellite Company, to make new plans for the launching of Brasilsat 2, a domestic communications satellite that will serve as strategic backup for the Brasilsat 1 that was placed in orbit early last year from the Kourou base in the French Guyana.

For the time being, the launching is scheduled for 26 February, but this date may yet be changed depending on the results of the flight number 16 of Arianespace on 16 January. If everything runs well, the Brasilsat 2 launching date will be confirmed automatically. According to Embratel, the postponements had to do with the international launching timetable of the Arianespace, and also with the failure of an Ariane rocket (V-15) during its launching in October 1985.

/8309
CSO: 5500/2019

BRAZIL

BRASILSAT TO BE USED IN ARMY MODERNIZATION

PY072041 Madrid EFE in Spanish 0830 GMT 6 Jan 86

[By Francisco Roque Bacarreza]

[Excerpt] Brasilia, 6 Jan (EFE)--According to information from Brasilia and rumors within high-ranking military circles, Brazil plans to have the largest army in Latin America, a project which enjoys the unqualified support of President Jose Sarney.

The plans establish that by 1990 the Brazilian Army will have 280,000 enlisted men. The renewal and modernization of the Brazilian Army are included in the so-called L990 KFT-90 land force plan which has two priorities already implemented. They are: territorial reorganization and communications.

The territorial reorganization provides for the division of the vast Brazilian geography into seven military commands instead of the five military commands that existed until October 1985. In keeping with this new plan, the Amazonas Military Command was established in Manaus while the Western Command, seated in Campo Grande, has been reinforced.

The second objective, which is to be achieved in January, concerns the modernization of the Armed Forces communications system through the use of computers and the satellite which will be linked to the high command and the Government Palace in Brasilia. The Armed Forces and the Embratel [Brazilian Telecommunications Company] have signed an agreement through which 2,400 channels of the Brasilsat satellite are placed at the disposal of the military in case of emergencies or war.

Army Minister General Leonidas Pires, 64, is one of the main promoters of the renewal and modernization project which has the president's full support.

The project is based on the self-sufficiency of Brazilian industry. Brazil is at present one of the main manufacturers of war materiel after the world powers, and its information industry is expanding rapidly.

/6091
CSO: 5500/2017

JAMAICA

SEAGA BACKS DOWN ON GOVERNMENT OWNERSHIP IN BROADCASTING

Port-of-Spain TRINIDAD GUARDIAN in English 19 Dec 85 p 5

[Text]

KINGSTON, Wed., (Cana)
JAMAICA government has dropped its proposal to retain a 25 per cent shareholding in those segments of the State-owned JBC radio and TV system it plans to lease, Prime Minister Edward Seaga announced last night.

However, Mr Seaga maintained that Government would not divest Jamaica Broadcasting Corporation (JBC) to existing media organisations here, or provide new radio or television licences to any such groups.

When he announced his media policy in August, the Prime Minister

said the morning segment of JBC television would be leased, as would be JBC AM radio and two small regional stations.

Government had intended to retain a 25 per cent share in these systems and initially maintain control of evening and night time television as well as JBC-FM.

However, Mr Seaga told Parliament that because of contention by a certain vested interest party, that its 25 per cent share in the divested segment would maintain Government control. The Government would not retain any.

/7358

CSO: 3298/250

GOVERNMENT INTRODUCES BILL TO INSURE BROADCASTING IMPARTIALITY

Kingston THE DAILY GLEANER in English 4 Dec 85 pp 1,3

[Text]

A Bill amending the Broadcasting and Radio Re-Diffusion Act for the setting up of an independent Broadcasting Commission to ensure political impartiality of the electronic media, was tabled in the House of Representatives yesterday by Prime Minister Edward Seaga.

In a brief statement following the tabling of the Bill, Mr. Seaga said the central feature of the amendment was the

provision for a right of reply in cases of misuse for party political purposes of time allocated to a Government, or in the case of any inaccuracies broadcast over the electronic media.

The debate on the Bill will open on December 17, and the Prime Minister promised to deal more extensively with the provisions and with related matters of media policy. The debate will break for the

Christmas recess and resume when the House meets again in January.

Mr. Seaga told the House: "In introducing today into this Honourable House the Broadcasting and Radio Re-Diffusion (Amendment) Act, 1985, I propose that this piece of legislation should have the fullest opportunity for debate. Accordingly, I will be opening the parliamentary debate on this Bill on Tuesday,

17th December, and this debate will be resumed after the Christmas break.

"The purpose of this Bill is to amend the Broadcasting and Radio Re-Diffusion Act to provide for an independent Broadcasting Commission in order to ensure political impartiality of the electronic media. The functions of the existing Broadcasting Authority will be incorporated into those of the Broadcasting

Commission, and the Commission will also be empowered to monitor and control the operations of the licencees under the Broadcasting and Re-Diffusion Act.

"The Central feature of the Bill is the provision for a right to reply in cases of misuse for party political purposes of time allocated to a Government, or in the case of any inaccuracies broadcast over the electronic media.

"The determination as to whether broadcast time has been misused by Government, or whether a licensee under the Act has permitted inaccurate information to be broadcast will be made by the Broadcasting Commission, the members of which will have been appointed by the Governor-General on the same impartial basis employed for the

appointment of the members of the Electoral Committee.

"It is my intention in opening the debate of this Bill on Tuesday, 17th December to deal more extensively with its provisions and with related matters of policy."

Section 21 of the Bill which deals with the matter of impartiality in political broadcasts and which is a new development in terms legislation regarding the operations of the broadcasting media, states:

"(1) Where, under any broadcasting licence issued under this Act, time is allocated to Government for broadcasts for reasons of emergency or in the national interest, such time shall not be used for broadcasting any matter which is likely, or intended —

(a) to solicit support for any political party or to promote the election of any individual or of any political party to any public or municipal office or to the House of Representatives; or

(b) to attack the policies, plans or

programmes of any political party or parties.

"(2) Where on any broadcasting station time is allocated to the Government or any political party for a broadcast which is used as mentioned in subsection(1)(a) or (1)(b), on terms whereby the time so allocated is free of charge or at any rate which is less than the normal commercial rate, equal time shall be allocated on that broadcasting station, on similar terms to any political party which the Commission is satisfied is likely to be prejudicially affected by that broadcast.

"(3) For purposes of ensuring compliance with subsection(1) or subsection(2), the Commission shall investigate any allegation of non-compliance made not later than 21 days after the date of the relevant broadcast and, if satisfied of the truth of the allegation, shall —

(a) if the allegation relates to subsection(1), direct —

(i) that equal time be afforded to such other political party or parties as

may be approved by the Commission to reply to matters arising out of such broadcast; and

(ii) that any such reply is broadcast at such time, on such terms with regard to payment or otherwise and in such circumstances as are in the opinion of the the Commission necessary to ensure that the reply is given to the broadcast which was the subject of the allegation;

(b) if the allegations relate to subsection(2), give such directions as it thinks appropriate to ensure compliance with that subsection.

(4) Where it is alleged that any broadcast contains information which is inaccurate, the Commission shall, upon being required to do so by any person not later than 21 days after the broadcast, investigate the allegation and, if satisfied as to the truth of the allegation —

(a) direct the licensee to broadcast an apology in such form as the Commission may determine; and

(b) subject to subsection(5), direct the licensee to afford to any person

prejudiced by the broadcast the opportunity of broadcasting a reply for the purpose of rebutting any information alleged to be inaccurate.

(5) A direction pursuant to subsection(4) shall be on such terms as the Commission may determine, so, however, that, without prejudice to the generality of the foregoing —

(a) if, in the opinion of the Commission, the licensee did not exercise due care in ensuring the accuracy of the information where it was possible to do so, the broadcast in rebuttal shall be free of charge; and

(b) in any other case, the broadcast in rebuttal shall be on such terms as to payment to the licensee as the Commission may determine.

"(6) For the purposes of this section "political party" means a political party which, at the time when the matter arises has five or more members in the House of Representatives or which had, immediately prior to the then last preceding dissolution of that House, five or more such members."

JAMAICA

DEBATE OVER GOVERNMENT ROLE IN BROADCASTING CONTINUES

Opposition PNP Views

Kingston THE DAILY GLEANER in English 11 Dec 85 p 24

[Text] The President of the People's National Party, Mr. Michael Manley, has suggested that Prime Minister Edward Seaga put the management of the Jamaica Broadcasting Corporation (JBC) under the same formula as the Electoral Advisory Committee.

Mr. Manley said that National Hero Norman Manley wanted the JBC to be a model of the British Broadcasting Corporation (BBC). He said, however, that it was tragic that Mr. Seaga began the destruction of the JBC from the '60s.

Mr. Manley told his Party's monthly forum at the National Arena Wednesday night that he wanted the JBC to be an institution of trust, and he had been advised not to divest it but put the Corporation on the same management formula as the Electoral Advisory Committee.

Accusing Mr. Seaga as having the worst record of relations with the media since the '60s, Mr. Manley said that the one good thing that the Prime Minister could do to restore the JBC to "credibility and impartiality" was to implement a management structure along the lines of the Electoral Advisory Committee.

The PNP President, referring to the proposal to set up the Broadcasting Commission, said that he was very glad that Mr. Seaga had tried to undo the long history of ills toward the Press.

But he said that because of the source of the announcement he was going to "watch it scrupulously." "We wonder whether it's a device to head off criticism; but we're going to struggle for him to hold word by word to his words," Mr. Manley declared.

He expressed the hope that the Media Commission would work closely with the working media, adding that he wished representatives of the print and electronic media would be included on the Commission.

Mr. Manley hailed the ownership structure of RJR as one of the most dynamic examples of worker participation in Jamaica with workers owning large chunks of stock.

Under a new PNP Government, workers at the JBC would have the same opportunity of participation as their counterparts at RJR, he said.

Seaga on Government Divestment

Kingston THE DAILY GLEANER in English 18 Dec 85 pp 1, 3

[Excerpts]

Prime Minister Edward Seaga announced in Parliament yesterday that the Government would not be interested in retaining 25 per cent ownership in the entities under the proposed ownership structure of the Jamaica Broadcasting Corporation (JBC).

Mr. Seaga had told Parliament in September when he unveiled elements of the Government's media policy that the administration would retain 25 per cent ownership as equity in the entities that would be leased to the private sector.

In opening the debate the Prime Minister said that because of the contention by a "vested interest party" that the Government's 25 per cent ownership in the media would give it control, that 25 per cent would be divested by the Government as well.

All the existing entities except television and radio which would be used for public broadcasting, would be divested. If the operators of the entities proved successful, they would have an "inside track" in the ownership of television, Mr. Seaga said.

However, he told Parliament that what was intended was not to divest to the highest monetary bidder. The

JBC was currently working out the charges for the use of its facilities which would become a fixed component with every bid, he said.

The Broadcasting Commission, which the Bill seeks to establish, will be advising on the terms and conditions for award of the licences, one of its first functions when it is set up. The criteria for granting licences were being worked on and an announcement would be made shortly.

Mr. Seaga repeated that in the ownership of media by the private sector, the Government would not consider the licensing of any entity owned by another station in the broadcast media, a regulation which existed in the United States of America under the Federal Communications Commission.

The Bill aims to foster impartiality and accuracy with right of reply in the electronic media.

/6091

CSO: 3298/268

PERU

BRIEFS

NATIONAL TELECOMMUNICATIONS SYSTEM ESTABLISHED--The ministry of transportation and communications has decided to approve the basic guidelines governing the establishment of the National Telecommunications System. The system will provide its services through a parent company of a holding type, which will be set up on the basis of ENTEL-Peru [National Telecommunications Enterprise of Peru], S.A., the Peruvian Telephone Company, S.A., and the INICT [National Institute for Telecommunications Research and Training]. Public telecommunications services will be provided by a group of state-owned enterprises. The National Telecommunications System will function in a decentralized manner. [Text] [Lima EL COMERCIO in Spanish 9 Dec 85 p A-4] 7679

COMPUTERIZED TELEPHONE CALL RECORDS--The Peruvian Telephone Company, S.A. has a modern, new computerized system for keeping records of telephone calls, which could offer a partial solution for the countless complaints now submitted by customers unhappy about their high bills. The control system was shown to the minister of transportation and communications, Jose Murgia Zannier, a few days ago at the inauguration of the exchange providing 5,000 new telephone lines in the San Isidro district. This system is available solely in exchanges that are among the 150,000 new lines, of which around 55,000 have already been installed. Computers in the central exchanges record the number of calls that each customer makes, the duration of each call, the time at which the calls are made, and the telephone number called. This information is displayed on a terminal screen, and is also recorded on small teletype machines run by the company's computer operators. The president of the board of the company, Cesar Garrido Iecca, said that with this system, claims for incorrect billing can now be settled more rapidly, thus avoiding repeated billing errors. [Text] [Lima EL COMERCIO in Spanish 9 Dec 85 p A-9] 7679

CSO: 5500/2014

6 February 1986

VENEZUELA

CANTV CELEBRATES 15 YEARS OF SATELLITE COMMUNICATIONS

Caracas EL UNIVERSAL in Spanish 27 Nov 85 p 2-9

[Text] Now, 15 years after its Camatagua ground station was opened, Venezuela has three additional antennas at this complex for satellite communications. Camatagua I was placed in service on 29 November 1975, and this complex, in addition to responding to the rapid increase in communications with a diversity of circuits, provides improved reliability for these vital services.

Camatagua I and Camatagua II have a total capacity of about 1,400 channels for various uses and two television channels. Both operate with a different satellite, so that in case of a failure or problem of any nature in one of the antennas, traffic can be routed via the other antenna, thus avoiding interruptions in satellite communications. In addition, other facilities are also provided for television transmission and reception, and TV programs can be recorded at the ground station for later delayed broadcasting.

Camatagua III and Camatagua IV are domestic antennas used for television broadcasting. Camatagua III broadcasts programming for the state channel, "Venezolana de Television" (channel 8), while Camatagua IV will extend television service to remote towns in Venezuela. For this purpose, television receiving stations are now being tested in Santa Elena de Uairen and Caicera del Orinoco in Bolivar State, San Fernando de Atabapo and San Carlos de Rio Negro in the Amazonas Federal Territory, San Telmo in Tachira State, and in Delta Amacura, in the federal territory of the same name.

CANTV is thus making a highly efficient contribution to President Jaime Lusinchi's government's national frontier regions policy. This policy is designed to bring vast frontier regions into the nation's everyday life.

The engineer Hernan Torrico Quiroga, head of CANTV's international broadcasting department, discussed some technical aspects of the Satellite Communications System.

He explained that the ground stations form the ground component, while the space component consists of the satellite, the tracking, telemetry,

telecommand, remote control, and testing equipment and facilities, and other elements needed for the proper operation of the satellite. The satellite was provided by INTELSAT, the International Satellite Telecommunications consortium, which now has over 100 member countries, including Venezuela.

Because of its geographic position, Venezuela only has access to satellites operating in the Atlantic Ocean region, where there is a series of satellites designed to provide the various services which INTELSAT offers.

This Friday, 29 November, CANTV will celebrate the 15th anniversary of the start of satellite communications in Venezuela. This event will take place in the Camatagua Complex, located 5 kilometers from the town of the same name, in Miranda State.

Mr Torrico Quiroga said that this site was chosen because of the topographic features of the valley, which provide optimum reception of the signal from the satellites, located at an altitude of approximately 36,000 kilometers.

7679

CSO: 5500/2015

ALGERIA

BRIEFS

TV, RADIO AGREEMENT SIGNED--A cooperation agreement between the Algerian state radio and television and the PRC state radio and television was signed this evening in Algiers in the presence of Bachir Rouis, alternate member of the Political Bureau and minister of information; the Chinese delegation led by Ma Qingxiong, vice minister of Chinese radio and TV, and also the Chinese charge d'affaires in Algiers; senior officials of the foreign and information ministries, and the directors of the Algerian state radio and television, and the national information bodies. On this occasion Bachir Rouis explained that the gist of this agreement constituted an additional piece in the consolidation of fraternal relations between Algeria and China. The agreement was signed for Algeria by the secretary general of the Ministry of Information, and for China by the vice minister of radio and television. [Text] [Algiers Domestic Service in Arabic 1900 GMT 17 Dec 85 LD] /9871

CSO: 4500/57

BANGLADESH

BRIEFS

DHAKA-BELGRADE INFORMATION PACT--Bangladesh and Yugoslavia will support and promote comprehensive cooperation in all fields of information activities of mutual interest under a five-year agreement signed between the two governments in Dhaka on Wednesday morning, reports BSS. The agreement was signed by Information Secretary Mr Manzur Murshed and Yugoslav Ambassador in Bangladesh, Mr Gustav Zadink on behalf of their respective government. Information Minister Shah Moazem Hosain who was present on the occasion hoped that the agreement would help foster closer and more comprehensive understanding between the two countries. Shah Moazzem referred to the existing good friendly bond of relationship between the two countries and said that the agreement would be executed in its true spirit. [Text] [Dhaka THE BANGLADESH OBSERVER in English 28 Nov 85 pp 1, 8] /9317

CSO: 5550/0064

INDIA

INFORMATION MINISTER DISCUSSES MEDIA POLICY

Calcutta THE STATESMAN in English 29 Nov 85 pp 1, 14

[Text] Mr V. N. Gadgil, Union Minister of State for Information and Broadcasting, announced in Calcutta on Thursday that his Ministry was working on a draft national communication or media policy. The draft, he said, was likely to be ready in two to three months. By July next year it would be published and circulated for a national debate on the various aspects of the issue. Finally, it would go to Parliament.

The Minister, who was speaking at a "Meet the Press" programme at the Calcutta Press Club, also announced that the new newsprint distribution and price policy would be declared around January-February next year, giving due weight to the demand for restructuring of the pricing and allocation system. The Government had earlier finalized a newsprint policy and he was about to announce it, but at the last moment it was found that the proposed new policy would be "administratively unworkable on the question of grammage". A fresh policy was now being formulated keeping in view the "grammage problem," he added.

He said that a national media policy had become necessary because a revolution in communication technology was now taking place. The draft media policy he had in mind would determine what type of technology should be adopted in India. Should the country adopt, for instance, the "electronic shower" system by which the news agencies would be able to reach 150 points within a minute or the technology which would enable newspapers to hold meetings among editors posted at various centres of publication while looking at one another. Or should the media adopt the technology which would enable newspapers to transfer their printed pages from one place of publication to another? All these matters would have to be discussed before taking a decision. He had not made up his mind on the issue as yet, but whatever steps were taken, the Government must ensure that they did not affect the functioning of the small and medium newspapers, he added.

Other areas which the proposed media policy would cover were the role of radio, television and newspapers, the role of the Government in the matter of advertisement and newsprint. The new policy would also settle whether a certain percentage of the GNP should be allotted for the communication network as had been suggested for improvement of education in the 1968 national education policy.

Another important aspect which the proposed policy would have to consider was the issue involving the people's right to know against the citizen's right to privacy. A great debate was now going on in the Western democracies on the issue since democracies were now considered to be information societies. The Minister said that he had already held discussions with the Union Communication and Education Minister about formulation of the draft media policy.

Newsprint Policy

As regards the new newsprint price and distribution policy, the Minister said that while formulating the new policy, the Government had to take into consideration the interests of the small, medium and big newspapers, the bilateral agreements with other countries for import of newsprint, the priority of the finance Ministry regarding foreign exchange expenditure and also the fact that the Government had already invested Rs 500 crores for setting up four newsprint factories in the country.

When it was pointed out to him that imported newsprint was cheaper than that produced in the country, Mr Gadgil said that the quality and the cost of Indian newsprint could not be changed overnight, but he had already held talks with the managements of the factories in this regard. He hinted that the new policy, being prepared in consultation with the Union Finance Ministry, would contain a "manageable formula". While admitting that Indian newsprint was costlier than the foreign product, he said that the newsprint factories had been set up with the aim of becoming self-reliant in sensitive sectors, even if the products might be somewhat costly.

Replying to another question, the Minister said that in the light of the Seventh Plan allocation for the Information and Broadcasting, Ministry, an exercise was being made to review the working of the Ministry. There was nothing unusual about it.

Doordarshan

Regarding the complaint that Calcutta Doordarshan's programme could not be viewed elsewhere in the State while they were able to see the national programmes through transmitters, the Minister said that viewers staying away from the State centres would be able to watch the regional programmes once the microwave link, or the additional "transponder" system, was introduced. Since the microwave link was costlier, the Government had decided to launch the "transponder" (INSAT-IC) by the middle of next year. It would take another six months to become operative.

When a reporter pointed out that too much publicity was now being given to the Prime Minister on Doordarshan which, he said, had now practically become Rajivdarshan", Mr Gadgil said one must remember that "the Prime Minister is the Prime Minister". But after Mr Gandhi wrote a letter asking his Ministry not to give him too much coverage, only his important functions were now being covered, he added.

The Union Minister inspected the newly constructed TV tower station of Calcutta Doordarshan at Tollygunge during the day.

/9274

CSO: 5550/0057

INDIA

SPACE OFFICIAL TELLS PLANS FOR REMOTE SENSING SATELLITE

Madras THE HINDU in English 22 Nov 85 p 7

[Text] Hyderabad, Nov 21. A remote sensing satellite will be launched into orbit by 1986 end or early 1987 for monitoring resources.

This was stated by Prof. U. R. Rao, Chairman of the Space Commission and Secretary, Union Department of Space, while inaugurating the sixth Asian conference on remote sensing at a function held here today.

The Department of Space was in the final stages of setting up five remote sensing centres at Nagpur, Kharagpur, Dehra Dun, Jodhpur and Bangalore. These would ensure full utilisation of the technology for deriving practical benefits, Prof. Rao said.

About 400 delegates from 15 countries including seven Asian countries are participating in the six-day conference, organised by the National Remote Sensing Agency in association with the Asian Association of Remote Sensing, Japan, and the Indian Society of Remote Sensing, Dehra Dun.

Prof. Shunji Murai, general secretary, Asian Association of Remote Sensing, said this conference was being conducted in the oriental style and not western style. He respected the host country's traditions and customs and wanted the participating countries to follow Indian customs.

Need for correct assessment: Prof. Rao stressed the need for correct assessment and inventory of natural resources. There was great demand for new technology and methodology for finding newer resources and careful harnessing of existing ones.

The problems of Asian countries, Prof. Rao said, were alike; this was characterised by the high rate of growth of population and comparatively poor modernisation. There was need for generating scientific temper and scientific culture to manage natural resources and understand environment. One of the new technologies was the advent of remote sensing with its many advantages like repetitive coverage, synoptic view, unbiased record, which could more efficiently monitor and inventorise the resources specially land resources.

Prof. Rao highlighted the achievement of India in the utilisation of remote sensing. The use of imagery from India's experimental earth observation satellite (Bhaskara) I and II in 1979-83 had been used for studying the sedimentation of river deltas, forestry, snow cover, ocean currents and large water bodies. Using satellite-based, aerial and ground truth imagery over 60 percent in India had been studied for resources inventorisation in the last ten years.

Valuable data: The result of some of the important studies such as drought conditions, depletion of forest resources over the last seven years and studies relating to agricultural crops had provided valuable data for national planning.

Prof. B. L. Deekshatulu, Executive Chairman, National Organising Committee of the Conference, welcomed the gathering. Dr. L. R. A. Narayan, Vice-Chairman, local organising committee of the conference, proposed a vote of thanks.

/9274

CSO: 5550/0051

INDIA

REMOTE SENSING CENTER PLANNED FOR HARYANA

New Delhi PATRIOT in English 31 Oct 85 p 7

[Text] Chandigarh, Oct 30--ARs 1.5 crore remote sensing application centre would be set up by the Haryana Government on the campus of Haryana Agricultural University at Hissar during the Seventh Five Year Plan. This was disclosed here today by Financial Commissioner and Secretary, Science and Technology Department B. S. Ojha.

This centre, Mr Ojha said, would introduce and utilise the latest remote sensing techniques for application into various sectors of state economy namely agriculture, soil, forestry, ecology, water resources, mineral exploration etc. The remote sensing technology had emerged as a powerful tool in collecting and compiling comprehensive, reliable and timely data on various natural resources.

Haryana has a rich agricultural base, producing about 70 lakh tonnes of food-grain every year. With the introduction of remote sensing techniques in the areas like crop production, forecasting, detection of incidence of diseases in crops, soil mapping etc. more result oriented and pragmatic production programmes would be planned.

This technique will also be helpful in studying the problems of water logging, salinity of soil, flood damage assessment, and atmospheric pollution, Mr Ojha said.

This centre, to be named "Haryana Remote Sensing Application Centre", will be autonomous in character and would function under the administrative control of the State Science and Technology Department. The project has been finalised in consultation with the Space Application Centre, Ahmedabad and will work in close collaboration with it.

The primary objective of this centre would be to act as an apex body in the State in relation to remote sensing applications. It would play an advisory role to the State, assist various agencies in the State in formulating programmes, build up modern image processing facilities and make them available to various users in the State. It would also undertake specific projects and conduct research and development in some areas. The Centre would thus act

as interface between modern technology and the end users for technology dissemination and participate in the evolution of National Natural Resources Management System (NNRMS) in the country.

Mr Ojha further said that the centre would be fully equipped with interactive computer systems, photographic and other testing facilities for the analysis and interpretation of visual, aerial and satellite data.

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CSO: 5550/0052

6 February 1986

INDIA

PLAN STRATEGY FOR TELECOMMUNICATIONS NOTED

Madras THE HINDU in English 29 Oct 85 p 11

[Text] Madras, Oct 28. With its funds for the Seventh Plan pruned to just one-third of what it sought, the Telecommunications Department may only barely better its Sixth Plan performance.

The Planning Commission has allocated about Rs. 4,010 crores for telecommunications which should enable the department to establish an additional exchange capacity of 12 lakh telephone lines so as to provide 9.5 lakh new connections and an additional 56,000 lines of long distance switching capacity.

In the Sixth Plan, the department connected 9.05 lakh lines after setting itself a target of 13.3 lakh lines and added 47,220 lines of trunk switching capacity against a target that was twice as large. The Planning Commission notes that whereas achievement was far short of target the financial provision was actually exceeded during the Plan, with the department spending a total to Rs. 2,838 crores against a provision of Rs. 2,336 crores.

Innovation needed: Spelling out the strategy that should be adopted in the Seventh Plan to take the country into a new era of telecommunications, the Planning Commission calls for innovation in organisation and management, a balanced growth in the network, modernisation and increased productivity.

Telecom should pay for itself, it says. The consumers, especially the larger ones such as the railways, banks, airlines, and the power and oil sector, should bear the cost of telecom use, and additional resources should be mobilised through innovative methods of financing, such as direct market borrowings.

To improve quality, the Commission suggests the replacement of old and worn-out equipment, the ducting of cables, automatising of manual exchanges and computerisation of services in the metropolitan cities.

Quantum jump: A quantum jump is to be made into digital electronic and optic fibre. Non-voice telecommunication services such as data links and computer communication systems are to be developed to support commerce, industry, banking, airlines and other bulk users.

About 3,000 km of fibre optic cables are to be laid, while 47 earth stations will be set up to provide a variety of satellite based services. The telex capacity is to be increased by 14,000 lines.

A warning: The Planning Commission calls for fundamental changes in the organisational structure and management methods. Noting the steps taken towards the setting up of independent telecommunications corporations in New Delhi and Bombay, it warns that restructuring the organisation, by itself will not be sufficient. The corporations must be transformed from procedure-and-rule-bound bureaucratic institutions to commercial enterprises with entrepreneurial drive. Procedures for project planning, financial control, maintenance, technology development and even marketing have to be changed. This is necessary, says the Planning Commission, since telecommunications is an industry with fast changing technology, new applications and high expectations from its users.

/9274

CSO: 5550/0050

INDIA

TELEPHONE USERS SAID TO LOSE CONFIDENCE IN SYSTEM

Bombay THE TIMES OF INDIA in English 18 Nov 85 p 4

[Text] Bombay, November 17. The poor performance of the telephone system, as reflected in the incidence of wrong numbers, disturbances, disconnections and need for repeated dialings, has led to an erosion of customer confidence which in turn has conditioned the attitude and behaviour of telephone users in such a manner as to aggravate the already existing congestion on telephone lines.

This is the conclusion of a study entitled "Telephone usage and behaviour-- Learning from Bombay's experience" recently carried out by Dr. S. K. Modak of Sydenham College, Bombay and Dr. V. N. Patkat of B.M.R.D.A., Bombay, as part of a continuous research endeavour in the area of social engineering in developing countries.

The monograph of this pioneering study conducted with financial assistance, from Indian Telephone Industries, Bangalore, was released by the education minister of Maharashtra, Prof. Ram Meghe, recently. In this study based on a survey of telephone subscribers of Bombay, the authors point out that a high proportion of telephone users do not observe the rules of correct telephone usage resulting in enormous wastage of telephone time and a sub-optimum use of the system network.

Some of the important findings of the study are:

- The number of contact points of an average telephone user vary from 5 to 20.
- About one-fifth of telephone users have no perception of the peak hour of telephone traffic; those who have feel that it falls immediately after the opening and before office-closing hours.
- Only 13 percent of the users complete their conversation in less than 3 minutes; others talk from 4 to 45 minutes.
- The most important purpose for which telephone is used is business, next is personal work and third is social.

--Only a little more than one-third of the users claim to follow the rules of telephone usage; others neither know them nor are interested in following them.

--While dialling, about one-third rely on their memory to recall the desired number.

--Most users do not believe that the engaged tone signals are true and therefore keep on dialling repeatedly with attendant time and energy costs involved.

--About 45 percent users claim they dial on an average 6 times to get connected successfully.

--There is a general unwillingness to lodge complaints.

--About half the users claim they always keep paper and pencil near the instrument for taking notes or writing numbers.

--After lifting the handset to answer a call, only one-third tell their numbers or name, the rest ask the caller's name or whom the caller wants.

--The number of instruments with defective dials and frayed and twisted coils is sizeable and this is perhaps one major cause of disturbances and disconnections during conversations.

--More than 70 percent of users suffer from the curse of wrong number connections and in varying degrees.

--The working of coin-operated public telephones leaves much to be desired.

--When an important message cannot be delivered due to failure to connect, about 40 percent of persons either go themselves or send someone with the message proving thereby that frustration with the telephone system does give rise to a demand for transport.

Modernising Cables

Writing on guidelines for policy, the researchers emphasise the need for undertaking technological assessment of the impact of new telecommunications technology on individual and group behaviour. Priority in investment should be given for improving and modernising cables--the third leg of the telephone system.

Similarly, integrated planning of transport and telecommunications should be undertaken in all urban areas in view of the prominently substitutive nature of their relationship in our country. There is also an urgent need to educate the users in the correct use of telephones.

On the operations side, the authors of the monograph suggest that the telephone department should investigate how and why a good number of telephones are not found at their officially stated addresses. A sizeable number of phones need immediate replacement even by importation if domestic production falls

short of the demand. The telephone directory should always carry the rules of correct telephone usage. The working of coin-operated public telephones deserves technical investigation.

Just as public buses get a priority over private cars, so should public telephones in residential buildings, chawls and squatter colonies be given weightage over private telephones in future expansion programmes. This is all the more necessary in view of the very rapid increase likely to take place in the demand for and use of telephones among people of lower but rising income groups.

/9274

CSO: 5550/0054

INDIA

BRIEFS

MADRAS PHONE CAPACITY--Madras, Nov. 25. A total of 14,980 telephone lines of additional capacity and 130 telex lines will be provided in the Tamil Nadu telecommunications circle during the current year, Mr. A. V. S. Mani, General Manager, said. He told the first Telephone Advisory Committee meeting here that 33,734 people had been waitlisted for all categories of telephone at the end of September. The telex exchange in Salem had been expanded from 100 to 150 lines and the waiting list for new telex connections wiped out. Detailing the steps taken by him to improve telecom services, Mr. Mani said flying squads on motorcycles had been functioning in Tiruchi, Salem, Madurai and Coimbatore. These squads inspected the coin box public telephone, the instruments operated by handicapped persons and the STD system. On telephone services in rural areas, he said that already 2,862 instruments were located at convenient places. [Text] [Madras THE HINDU in English 26 Nov 85 p 12] /9274

KERALA ELECTRONIC EXCHANGE--Kottayam, November 28: A computer-controlled, 2,000-line electronic telephone exchange was commissioned at Changanassery, 16 km. from here, last week. This exchange, the first of its kind in Kerala, was installed at a cost of over Rs. 3 crores. The equipment was partly imported from the Netherlands. It would have inter-dialling facilities from Kottayam besides STD. The new exchange would be opened by the Union communications minister, Mr. Ram Niwas Mirdha, on December 12. [Text] [Bombay THE TIMES OF INDIA in English 29 Nov 85 p 17] /9274

STD FOR JALGAON--Jalgaon, November 16 (PTI): The Subscriber Trunk Dialling (STD) linking Jalgaon and Bhusawal with 32 cities in the country, was commissioned today. The Facility was inaugurated by the general manager of telecommunications, Maharashtra, Mr. V. N. Varhadkar who made a call from Aurangabad to Mr. K. R. Sonawane at the Jalgaon division office. [Text] [Bombay THE TIMES OF INDIA in English 17 Nov 85 p 5] /9274

HYDERABAD DIGITAL EXCHANGE--Hyderabad, November 29: South India's first digital electronic exchange with a record capacity of 10,000 lines was commissioned by Dr. C. Narayana Reddy, vice-chancellor of Andhra Pradesh Open University, here today. Mr. M. P. Agarwala, member of the telecommunications board, who presided over the function, noted that electronic exchanges had already come up in Bombay, Kanpur, Ahmedabad and Pathankot, making Hyderabad the fifth place to do so. The new Hyderabad exchange still scored

a first in the country in that it was the first with full complement of digital environment by linking to all other major exchanges in teh system with pulse code modulation systems, Mr. M. R. Subramanyam, general manager of Hyderabad Telephones, said. The digital switching system supplied by the French company, Alcatel Thomson, offers several new services. "Wrong numbers and cross connections will be a thing of the past for the 8,000 lucky subscribers using the Saifabad exchange." [Text] [Bombay THE TIMES OF INDIA in English 30 Nov 85 p 9] /9274

CSO: 5550/0058

IRAN

BRIEFS

FIRST UHF TRANSMITTER OPERATIONAL--The Jena' radio and television transmitting station began operating today in the presence of Mohammad Hashemi, managing director of the Voice and vision of the Islamic Republic of Iran. The station has the first powerful UHF transmitter in Iran. According to a report by the Central News Unit, the station, which has two 10-kw and 20-kw UHF and VHF television transmitters and two 10-kw FM radio transmitters, can broadcast programs of the first network of the television of the Islamic Republic of Iran on channels 4 and 46 as well as broadcasting Persian and Arabic programs of the voice of the Islamic Republic of Iran on FM frequencies of 100.8 mhz and 104.4 mhz to 2 cities and 174 villages in the Persian Gulf Coastal area from Bandar-e Moqan to Bandar-e (Mo'alleh) which is closed to Bandar-e Lengeh, as well as the islands of Lavan, Kish, [word indistinct] and Bani (Farur), Grot Lesser Tunb, Siri, and Abu Musa. Given the favorable conditions which prevail over half of the year, transmissions can also be broadcast abroad. The transmitting station is located on Jena' mountain which is 1,450 meters high. It cost over 230 million rials and was completely constructed, equipped, and set up by the experts of the Voice and Vision of the Islamic Republic of Iran. It should be noted that the station can broadcast via satellite should continued use of satellite go into effect in the country. Currently, the installation of the satellite ground station has been completed and is in experimental use. [Text] [Tehran Television Service in Persian 1600 GMT 3 Jan 86 GF] 12624

CSO: 5500/4716

PAKISTAN

LOAN FOR TELECOMMUNICATIONS PROJECT APPROVED

Karachi BUSINESS RECORDER in English 6 Jan 86 p 1

[Text] The Asian Development Bank (ADB) has approved a 69 million dollars loan to Pakistan for the second telecommunications project which will help finance a significant portion of the Government's telecommunications expansion plan and thereby enhance the national and international telephone access, including access to unserved rural areas.

Together with the loan, the ADB will finance a technical assistance grant for a rural telecommunications strategy study informed sources said here.

The sources pointed out that Pakistan's telecommunications sector is currently handicapped by several constraints: an estimated unmet demand for about 1.7 million telephone connections against 0.46 million existing subscriber lines, limited access to service in rural areas where only 1,900 out of 45,000 villages have some telecommunication links, unsatisfactory quality of service with only about 25 per cent of local and 15 per cent of domestic and international long-distance call attempts being successful, old equipment and outdated technology in the country's main exchanges, and institutional inadequacy including insufficient training of field staff to assure satisfactory quality of service.

To correct this situation, the Pakistan Government has accorded high priority to the development of the telecommunication sector. The main objectives of the project approved by the ADB recently are to increase the national telephone density, expand international telecommunications access, and improve the organisation, operational efficiency and quality of the Telegraph and Telephone Department of the Ministry of Communications of Pakistan.

The following components form part of the project:

--Installation of 210,000 telephone lines at Karachi, Lahore and Islamabad/Rawalpindi, and related ancillary equipment and facilities, including buildings, cable ducts, air-conditioning, testing equipment, vehicles spare parts and tools.

--Public call offices (PCOS) and ancillary equipment of 2,000 selected villages that have no telecommunications access.

--An "A" type antenna with ground and ancillary equipment at the Karachi satellite earth station.

/12828

CSO: 5500/4717

6 February 1986

SAUDI ARABIA

TELECOMMUNICATIONS IN EASTERN PROVINCE

Riyadh AL-RIYAD in Arabia 5 Oct 85 p 2

[Article from SPA: "175,000 Telephone Lines, 3,596 Telex Lines and 1,369 Mobile Phones Operating in Eastern province"]

[Text] By the end of the month of Dhu al-Qa'dah, 1405, the total number of telephone lines operative in the communications region of the general administration of the Eastern Province, including al-Dammam, al-Ihsa', al-Jubayl, al-Jawf and 'Ar'ar, had reached 175,489 lines.

Further, 3,569 telex lines, 1,399 mobile phone lines and 971 pay phones were in operation in all areas by the same date.

'Abdallah 'Abbad al-'Abbad, the director general for communications for the Eastern province reported this. He said that the total number of telex messages sent in all areas during the period mentioned numbered 317,309, of which 170,462 were domestic and 146,847 international. The income from these messages amounted to 8,524,424 riyals.

Al-'Abbad explained that the number of lines operative in the district of al-Dammam by the same date reached 111,111 and the number of telex lines reached 2,954. There were 1,203 mobile phone lines and 532 pay phones.

He added that the district of al-Dammam includes 24 exchanges and 9 booths for international calls. The percentage of installations within 24 hours was 38.2 percent, exceeding the official goal of 30 percent. The failure rate per 100 operative lines was 2.5 percent, and the average monthly income from telephone operations was 1,700,000 riyals. The total number of telegrams, both domestic and international, sent and received by the public was 820,513.

In the district of al-Ihsa', there were 130,436 telephone lines operating by the same date, and there were 42 telex lines and 175 mobile telephones.

Further, there were 129 pay phones. The percentage of installations within 24 hours was 79.92 percent, and within 7 days was 99.68 percent, compared to the goal of 95 percent. The percentage of failures repaired within 8 working hours reached 88.95 percent, compared with the goal of 82 percent. The rate of failures per 100 operating lines reported was 4.24 percent,

compared with the goal of 5.3 percent. The rate of failures per 100 lines reported for the international phone network was 4 percent, compared with a goal of 6 percent. The percentage of bills distributed within 5 days was 100 percent, compared with a goal of 95 percent. The number of calls from phone booths during the same month was 19,203.

Income from telex use was 259,697 riyals, and the total amount received from pay telephones was 261,739 riyals. Income from telegrams amounted to 44,324 riyals. There were 4,113 incoming and outgoing telegrams.

Al-'Abbad explained that the district of al-Jubayl had 8,609 telephone lines operating in the industrial city of al-Jubayl by the end of Dhu al-Qa'dah.

There were 133 telex lines in the civil organization of al-Jubayl and Yanbu'. There were 210 pay phones in the district and 4 exchanges, with a total capacity of 60,700 lines, and 6 phone booths for international calls. The percentage of installations within 24 hours reached 35.6 percent. The percent of failures repaired within 8 working hours was 68.3 percent. One hundred percent of the bills were distributed within 5 days. The average monthly income from pay phones was 29,000 riyals.

The general director of communications for the Eastern province pointed out that the district of al-Jawf had 14,864 phone lines in operation by the same date, spread over 7 exchanges. There were also 134 telex lines and 21 mobile phones in al-Qirat and Sakakah.

There were 62 pay phones. The percentage of installations within 24 hours reached 93.76 percent. The percentage of failures of lines within the district repaired within 8 hours reached 98.6 percent. One hundred percent of the bills from the previous period were received.

Al-'Abbad mentioned that the district includes 212 employees, counting the administrators. The district of al-Jawf includes a number of technical and administrative buildings designed according to the most advanced architectural specifications in most of the centers of the district. Planning is currently under way to construct other buildings for mobile phones in al-Qirat and Sakakah. The district has cooperated with the relevant governmental offices to supply all of the services to the pilgrims to Mecca arriving by roads from the north of the kingdom. It undertook to build a temporary center for reception of telegrams and telex messages and telephone calls, as well as setting up a number of temporary pay phones to provide international communications between the pilgrims and their families. An exchange is currently being put into operation for Sakakah, Qarah and Tabrajal and a modern microwave link from the public electricity network. This will be extended soon to the exchange for the district, which will require great efforts for maintenance and fuel. There has recently been completed in the district of al-Jawf a control system for the cable lines using a computer to cover the exchanges of Sakakah, al-Qurayyat and Dumat al-Jundal. This is to prevent failure of the cables and to control them to provide modern service to the subscribers. Repair center 904 was completed

in Sakakah, where one of the computer systems was put into operation to examine the subscribers' lines. Further, a project was completed to construct a center operating in cooperation with maintenance centers in al-Dammam, Riyadh and Jiddah, where four new phone booths have been built in the past year in a program of telephone expansion in the district, the total cost of which is 1 million riyals.

These booths provide service for 450 subscribers. Planning is currently underway for construction of 8 other booths to join in providing service to more than 1,800 subscribers, at a total cost of 2 million riyals.

Al-'Abbad explained that the number of telephones operating in the district of 'Ar'ar by the date mentioned was 9,469. There were 106 telex lines and 83 pay phones. The district includes 3 exchanges with a total capacity of 11,776 lines in each of 'Ar'ar, Tarif and Ruha'.

Telephone service reaches the other cities of the province, including the cities of al-'Uwayqilah, al-Jadidah and Linah by a microwave network. The district of 'Ar'ar includes 60 booths for the telephone network and 3 booths for international calls in 'Ar'ar, Tarif and Ruha'. In addition, the district of 'Ar'ar includes 15 telegraph centers. Al-'Abbad mentioned that the number of subscribers to the marine communications station in al-Dammam had reached 164 by the end of the month of Dhu al-Qa'dah.

12780/12781

CSO: 4404/130

INTER-AFRICAN AFFAIRS

OFFICIAL SAYS PANA NEWS DISTRIBUTION TO INCREASE

AB111629 Dakar PANA in English 1414 GMT 11 Jan 86

[Text] Dakar, 11 Jan (PANA)--Zimbabwe minister of information, posts and telecommunications, Mr Nathan Shamuyarira today said in Dakar, Senegal that the distribution of news by the PAN-AFRICAN NEWS AGENCY (PANA) would be increased significantly in future.

Mr Shamuyarira made the remark after a conducted tour of the PANA Headquarters. He was accompanied by Senegalese minister of communications, Mr Djibo Ka, Gabonese minister of information, Mr Zachari Miboto, head of Rwanda Press Services, Mr Joseph Mbambabeye and the acting Zimbabwe ambassador to Senegal, Mr George Vengesa.

The ministers and other officials are currently attending the 8th session of the intergovernmental Council of Ministers of information of the nonaligned countries in Dakar which opened on January 9.

Mr Shamuyarira, who is chairman of the PANA Inter-Governmental Council of Information Ministers (IGC) said: We want news about Africa to go out loudly and clearly and particularly news about the struggle in southern Africa.

The minister stressed that PANA would have to highlight news about southern Africa as the struggle for liberation is of crucial importance to the continent.

After expressing pleasure in having seen the operations of PANA Mr Shamuyarira noted that the problems of PANA such as financial problems would be given greater attention in future.

Earlier the visiting team was taken round the editorial and technical sections and were briefed on the news agency's operations by the director-general, Mr Auguste Mpassi-Muba.

/8309
CSO: 5500/38

GUINEA BISSAU

BRIEFS

SFRY-ASSISTED RADIO NETWORK--Belgrade, 15 Jan (POOL-NA/PANA)--The Yugoslav Radio-Television (JRT) has assisted Guinea-Bissau in opening a national radio broadcasting network. The assistance was given under an action programme adopted at the first conference of radio and television networks of non-aligned countries in 1977 in Sarajevo, Yugoslavia. A JRT team mounted and inaugurated a 10-kw medium-wave transmitter at Nyakra, a studio complex in Pinjigiti and an ultra-short-wave transmitter in Bafata. The equipment, built in Yugoslav factories, totals 140,000 dollars in value. Representatives of the U.N. Development Programme (UNDP) in Belgrade and Guinea-Bissau have greatly contributed to the realization of this cooperation. [Text] [Dakar PANA in English 1655 GMT 15 Jan 86] /8309

CSO: 5500/38

NIGERIA

COMMUNICATIONS SHIFTING TO ATLANTIC BASED SATELLITE

Kaduna NEW NIGERIAN in English 27 Dec 85 p 24

[Article by Olu Adebayo: "Intelsat to Relocate Nigeria"]

[Text]

NIGERIA is to be relocated on a new domestic satellite by the International Satellite Organisation (INTELSAT), early in January, next year.

The *New Nigerian* learnt from high level sources at the Nigerian Telecommunications Limited (NITEL) that the country had been granted permission to move from far away 'INTELSAT' on the Indian Ocean to the more sophisticated 'INTELSAT VA' on the Atlantic.

The movement, which NITEL officials were confident would improve domestic telecommunication services, was said to have involved an extensive official effort because Nigeria would otherwise have been worse-off for the alternative.

Reports said because it was being underutilised, INTELSAT intended to move the satellite on which Nigeria is currently hooked on the Indian Ocean about 66 degrees further east in order to tap the huge maritime communications resources in the area and clear of the presence of a large number of ships.

NITEL engineers in Lagos were said to have protested when they were notified of the INTELSAT plan and officials were despatched to the Washington D.C. headquarters of the organisation to argue the country's case.

Nigeria, according to the official argument, would rather be relocated than go with the one being moved because it would have worsened our already precarious domestic telecommunications transmission.

According to a top official of NITEL, Nigeria's earth stations which were presently viewing at 17 degrees east with some difficulties would have been down to only five degrees with resultant blackouts in high rise buildings and bridges.

Nigeria's relocation on the 'INTELSAT VA' on the Atlantic now puts our earth stations on a viewing position of 57 degrees which, according to experts, had solved most of the problems.

The relocation, the *New Nigerian* understood, would entail the realignment of the antennas of the country's 20 earth stations which was likely to cause disruption in domestic service for a day or two, especially in network news transmission.

NITEL officials confirmed that they had up to January 7 next year to effect all the technical changes required for a hook-up with the new satellite and plans were being made to put out a public alert on the situation between January 3 and 4 next year.

NITEL Public Relations Manager, Alhaji Isa Galadanci confirmed the relocation story and said it was a big scoop for Nigeria.

On the expected two-day disruption of service, he said he believed Nigerians would be willing to bear such minor inconveniences when the end result was improved service.

SENEGAL

SENEGALESE, PAKISTANI PRESS AGENCIES SIGN PACT

AB121818 Dakar PANA in French 1547 GMT 11 Jan 86

[Text]Dakar, 11 Jan (APS-SEN/PANA)— Mr Amadou Dieng, director of the SENEGALESE PRESS AGENCY [APS], and his Pakistani counterpart of the ASSOCIATED PRESS OF PAKISTAN [APP], Khalid Ali, signed an agreement of cooperation between the Senegalese and Pakistani national press agencies on Saturday morning at the APS conference hall in the presence of the Pakistani ambassador to Dakar. This cooperation agreement will enable the two agencies to use and freely transmit international and national news items broadcast by one of them and vice versa. The agreement also provides for the exchange of information documents, photographs, the reception of news by cable, telex, post, or radio, as well as the coverage of events in Senegal or Pakistan as defined by the APS or the APP.

According to the APS director, Amadou Dieng, the signing of this agreement is a symbol for the two geographically separate countries which share cultural ites, and which are members of the organization of nonaligned countries. These two organizations, Mr Amadou Dieng underlined, have set up an agency pool with the aim of promoting parallel information and thus contributing to the strengthening of a new world information and communication order. According to him, each time two agencies sign an agreement it constitutes a step towards the achievement of a new world information and communication order, and we are merely heeding the call of our leaders.

For his part, AAP director general Khalid Ali said that this agreement, the first between Pakistan and a friendly African country, marks an important stage in cooperation between Senegal and Pakistan. After praising Senegal's cultural wealth, the AAP director called on the two agencies to publish objective information to rectify the deformed image of the Third world presented by the Western press media.

/8309
CSO: 5500/36

ZIMBABWE

COST OF USING ATLANTIC SATELLITE

Harare THE SUNDAY MAIL in English 15 Dec 85 p 3

[Text]

ZIMBABWE pays US \$390 a unit a month for using the satellite above the Atlantic Ocean for sending or receiving messages. The country is not yet a member of Intelsat, a spokesman for the Posts and Telecommunications Corporation said last week.

Zimbabwe was only a user. Intelsat leased units of utilisation which were commonly known as circuits and the country paid a rate of US\$390 a unit a month, whose total annual amount is US\$4 680 a unit. This is offset by the revenue derived from use of the unit.

There were 33 countries operating on the Major Path Two Satellite and 70 on the Atlantic Primary Path. The subscription

fees paid by members operating on Major Path Two and Primary Path were the same. Equally the uplink and downlink charges are the same. These charges were based on the transponder leased.

A PTO spokesman said the country was also in direct telephone link with the UK, US, West Germany, Greece, Italy, France, Canada and Malawi.

It was only directly linked for telex facilities with Italy and the US, while its television linked all countries that operated on the Atlantic Ocean region's Major Path Two. These countries received and transmitted the same type of television, in this case Phase Alternating Lines 625/50.

/12851

CSO: 5500/34

ZIMBABWE

PTC CELEBRATES YEAR OF MAJOR ACHIEVEMENTS

Opening of Mazowe Earth Station

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 15

[Text] 1985 has proved to be a year of major achievement for Zimbabwe's Posts and Telecommunications Corporation (PTC).

Three years of planning culminated on August 22 when the Prime Minister, Mr R G Mugabe, officially opened the Mazowe earth station, which forms part of the country's newly established international telephone, telex and television links with other countries.

This was without doubt the most dramatic development in the country's telecommunications history. It is now possible for subscribers to telex or telephone directly to countries overseas. In addition, direct live television broadcasts may now also be relayed to and from Zimbabwe.

The creation of these links has not only made the country independent of South Africa, but has also created the potential for Zimbabwe to be the communications centre for southern Africa. This has uplifted the technological standing of Zimbabwe in the telecommunications world, will enhance the exchange of information, ideas and trade opportunities for the whole region, and, it is hoped, become a major earner of foreign currency.

This year also sees the completion and occupation of the new headquarters for the PTC. Formerly the corporation was housed in various buildings in the capital city, Harare, but now it has its own purpose-designed, \$12,8m building. This will increase the efficiency of the corporation, provide improved working conditions for its administration staff, and house the corporation's computer bureau.

Link with Intelsat

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 15

[Text] The world-wide Intelsat system, of which Zimbabwe is now a part, utilises the most advanced telecommunications techniques available. In simple terms the system works through a network of satellites which both receive signals from ground stations, and transmit in turn to ground stations.

In the case of Zimbabwe, the Intelsat system over the Atlantic Ocean Region picks up signals from earth stations in North and South America, Europe, Russia, Arabia and Africa. The earth station at Mazowe transmits signals from Zimbabwe and adjacent countries, and receives telephone, telex and television signals from countries outside Zimbabwe which it retransmits through repeater stations to Harare and Gweru.

From Harare there is a direct link to the ZBC television studios for the reception and transmission of television signals. At Gweru the telephone and telex signals are received at the international switching centre, and then redirected through Zimbabwe's internal telephone network to individual subscribers, and onward to adjacent countries.

Through microwave links both Zambia and Botswana can direct traffic through Gweru and onward to the Mazowe earth station, linking up through the Intelsat system to countries around the world.

Traffic is not restricted to those countries where there are earth stations in direct contact with the Intelsat Atlantic satellite system, as there is onward routing from these stations either by conventional landline or through transmission by way of satellites in the Pacific Ocean region or the Indian Ocean region.

When Zimbabwe eventually adds a second antenna at the Mazowe Earth Station, linking with the Indian Ocean Region Intelsat system, Zimbabwe will also have direct telecommunications links with the east, and such countries as Australia and Japan.

Communications Center of Southern Africa

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 pp 16-17

[Text] The linking of Zimbabwe with countries around the world via satellite in 1985 came 20 years after the first experimental satellite system was established, and 40 years after a geostationary satellite system had been proposed by the noted science-fiction author, Arthur C. Clarke.

The Intelsat system is the world's largest communication network, provided by three satellite systems based over the Atlantic Ocean, the Pacific Ocean and the Indian Ocean regions. 148 countries are at present utilising this space-age technology, 108 of which are members and 40 non-member participants. At the moment Zimbabwe is participating as a non-member, and is leasing a certain portion of the available traffic capacity of the Atlantic Ocean satellite system, providing direct communication links between this country and many countries in Europe, Africa and North and South America.

The Intelsat system, which has given Zimbabwe independent communications with other countries, also provides a higher standard of communication. The system works through three satellite systems which are placed in what is known as geostationary or geosynchronous orbit--that is they appear from

6 February 1986

earth to be stationary, but in fact are moving in an orbit which maintains their position above a certain position on the earth.

The Atlantic Ocean region, because of the large amount of traffic that flows between Europe and the Americas, uses three satellites, making this the largest of the three regional satellite systems. The satellites are positioned to cater for traffic routes and countries which have historically developed and have in the past been serviced by undersea cable connections, which still exist and complement the satellite services. There are similar systems over the Indian Ocean and the Pacific Ocean.

Zimbabwe is favourably located with access to both the Atlantic Ocean Region and the Indian Ocean Region satellite systems. It is likely that the Mazowe Earth Station will be developed in the future to give access through the Indian Ocean Region satellite system to the East. This prompted the Japanese ambassador to Zimbabwe to say at the official opening of the Mazowe Earth Station: "Zimbabwe will become the communications centre of southern Africa".

The original Intelsat Satellite One system, which was established in 1965, had a capacity of 240 telephone channels. The capacity of the present satellite series is approximately 12 000 telephone circuits and two television channels. The next generation of satellites, the Series VI, will cater for about 30 000 telephone circuits and two television channels.

Independence National Priority

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 18

[Text] The need for an earth satellite station for Zimbabwe, providing direct and nationally controlled telephone, telex and television links with other countries, became a government priority soon after independence.

The actual construction of the earth station and related facilities took only ten months. Assessments of the technical feasibility and viability began in 1982, following a visit to Japan by the Zimbabwe Prime Minister, Mr R G Mugabe, in May, 1981. Current and future traffic projections indicated that the satellite system of communications would be an economical proposition as well as being technologically appropriate.

Although the initial capital development costs of such an enterprise are high--approximately--traffic revenue forecasts predicted that the investment would avoid expenditure of foreign currency on transit charges and within a short period would contribute to the PTC's revenue, becoming an earner of valuable foreign exchange for the country.

After evaluation of tender bids from companies in France, Italy, Japan and Britain, the Sumitomo Corporation of Japan was awarded the tender for the supply and installation of the earth satellite station. The contract was signed between the company and the PTC in 1983, and in 1984 the Japanese Government signed an agreement with the Zimbabwe Government which provided a loan of \$12m for the cost of the project.

It was also agreed that 11 technicians from Zimbabwe would be trained in Japan to operate and maintain the equipment, and on their return to Zimbabwe they assisted in the installation and testing of the Earth Station.

Sumitomo Corporation was responsible for the construction of the 32m-diameter dish antenna, while local companies designed and constructed the civil works complex. The experience thus gained by these local companies will be of great benefit in the future development of other sectors of the Zimbabwe economy.

Zimbabwe, which has had to rely on South African facilities for telecommunications, now possesses for the first time its own direct, independent telex, television and telephone links to Europe, Africa and North America. The introduction of links through the Intelsat system marks a milestone in the country's telecommunications history.

Location of Antenna Critical

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 18

[Text] When the decision to develop direct satellite links was made and finance arranged, the physical location of the earth station had to be determined.

Crucial factors which needed to be considered were the cost of the project, the ease of operation and maintenance of facilities, geographical and meteorological conditions, radio frequency interference between the proposed site and any existing microwave links, skyline profiles and satellite "visibility".

Eventually the choice of the Mazowe Valley area was made, and after negotiations with landowners, an area of ground on the farm Yarrowdale was purchased.

The choice of site for the earth station was critical because the radio path between it and the satellite must be a clear line-of-sight path, the length of which will depend on the location of the earth station in respect of the satellite.

This can be a minimum of 35 786 km for a station on the equator directly in line with the satellite. The greatest distance would be that for an earth station located at a point on the circumference of the earth's disc which is visible to the satellite--approximately 41 756 km. There is a minimum elevation angle of 5° below which operation is generally not practical.

A satellite communication system can be precisely defined for accurate performance as the path loss can be accurately calculated, random fading of the signals is negligible, the effect of rain on the signal propagation can be determined, and there is negligible atmospheric absorption.

Battery System for Standby Power

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 18

[Text] Power for the Mazowe earth station normally would be provided by an ESC line from a nearby 33kV feeder. In the event of a mainline failure, standby power would be generated by one of two 320kV engine generators.

It is necessary, however, that the communications equipment should not suffer any break in power continuity resulting from start-and-stop actions following a mains supply failure. This can cause significant disruption in traffic flow and operations would be severely affected as the equipment requires a re-start cycle which is considerably in excess of short power interruptions.

For this reason there is a large-capacity high-voltage battery reserve system which can provide power for 30 minutes, providing time to initiate one of the two stand-by generator sets.

Antenna Description

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 19

[Text] To the general public the most visible equipment at the Mazowe earth satellite station is the 32m-diameter parabolic antenna which receives and transmits signals to and from the Intelsat Atlantic Ocean Region satellite system. This stands 40m high above the surrounding countryside.

The antenna is made up of curved reflector panels, mounted on a tubular steel structure. This in turn is mounted on a frame which runs on a circular guide-rail on four azimuth track wheels, a total weight of 243 tonnes. The track in turn is mounted on top of the antenna building.

The antenna can operate under braked conditions at wind speeds of up to 115 km per hour, and can survive in stowed position (that is facing vertically upwards), at winds of up to 193 km per hour. The antenna system is driven by two separate motor-driven systems, one ac and the other dc. There are two drives on the azimuth wheels for movement in the horizontal plane and two drives for the elevating gear for vertical movement. The ac drive motors are used high-speed movements, slowing and stowing of the drive system. The dc motors are used when the satellite is being tracked. The power rating of the dc motors is 0,75kW and the ac motors are rated at 11kW.

Although the satellite is in a geostationary orbit, it moves or shifts in orbit as a result of the imperfect nature of earth/satellite body motion, and must be kept exactly on track to optimise signal conditions.

Tracking is achieved by measurement of a beacon signal from the satellite which is optimised by moving the antenna through a prescribed scanning pattern.

Microwave Transmission

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 20

[Text] Microwave transmissions for telephone communications have been in use in Zimbabwe since 1970, and replace the conventional, telephone wires traditionally seen strung between telephone poles along the side of main roads. The basic principal of microwave involves the firing of a signal from a microwave dish to a further microwave dish along the line of sight. The signal carries a number of telephone calls.

The normal accepted maximum range of microwave transmission is approximately 80km and consequently every 50km or so along the route a building and tower known as a repeater station are provided. The repeater station's function is to receive the signal from the previous station via the antenna at the top of the masts, pass the signal down a wave guide into the repeater building below where the signal is filtered and amplified, passed back up the tower to be fired to the next microwave station along the line.

The repeater station typically consists of a reinforced concrete equipment building with a lattice steel tower sitting on top of it. More often than not the towers and buildings are sited along main roads joining major cities, as the buildings need to be serviced and need to have reasonably good access for this reason. More often than not the buildings will be sited on high ground if this is possible, to provide maximum range between stations.

The first microwave link in Zimbabwe linked Bulawayo and Harare, and was commenced in 1968 and was commissioned in 1970. As well as linking Bulawayo and Harare the line serviced the towns of Chegutu, Kadoma, Kwekwe and Gweru. In 1972, the second link was constructed from Harare to Mutare and this line incorporates the highest of the PTC towers built to date. This on Idara Hill just outside Bromley and is 98 metres high.

Third Link

A third link running from Gweru to Beitbridge linked the Zimbabwean microwave system with its counterpart in South Africa. This was constructed in 1975 and also provides a connection into the microwave system for the town of Masvingo.

In 1980 work was started on a link connecting Bulawayo with Victoria Falls. The provision of this link was funded by the Norwegian aid agency NORAD and as a result of this funding the link was extended southwards from Bulawayo to Francistown and northwards into Zambia to connect Victoria Falls to Livingstone. This achieved a link between Zambia and Botswana via Zimbabwe, and the Botswana link is subsequently being extended from Francistown to Gaborone.

In 1983 work commenced on the route between Harare and Kariba to provide a second link to the Zambian system and also to provide a service to Chinhoyi. The first repeater station site on this Kariba link is situated on the Iron

Mask range above Mazowe earth satellite station into the Harare post office. Also in 1983 work started in the east and south of Zimbabwe to provide services to Juliasdale, Chipinge, Chiredzi and Zvishavane. From this link service was also provided from Mutare to Chimoio in Mozambique, and a parallel project connected Chirundu to the Harare-Kariba microwave system. Preliminary planning work has now commenced on a new route to connect Harare to Blantyre in Malawi, via Tete in Mozambique.

Sight Distance

The repeater stations and towers are all basically similar, normally varying only in the height of the tower, which is a requirement of the sight distance to the next repeater station. The buildings are essentially reinforced concrete boxes containing four basic rooms:

- (a) an entrance lobby;
- (b) an equipment room;
- (c) a battery room; and
- (d) a generator room.

The station runs on batteries which are kept charged by mains current. An emergency generator is occasionally provided for backup in the event of mains failure, but even if the generator is not supplied provision is made for it in the design of the building. The aerials which accept and receive the signals are mounted near the top of the lattice tower and are parabolic dish aerials. These are highly directional and it is consequently a requirement of the design of the towers that they are stiff both laterally and vertically. The normal signals transmitted are telephone communications but the system can also be used to carry television signals to feed ZBC transmitters.

The consulting engineers to the PTC for all microwave links completed in this country since 1980 have been Ove Arup and Partners.

Mazowe 'Typical Earth Station'

Harare THE FINANCIAL GAZETTE in English 20 Dec 85 p 20

[Text] The Mazowe Earth Station follows a typical communications configuration, comprising the following subsystem and components:

- (i) a large high-gain, high performance, steerable antenna system with tracking equipment.
- (ii) an antenna feed system which permits transmission and reception of the relevant signals to/from the antenna, suitably polarised.
- (iii) a receiving amplification system which provides high gain of the received signals with minimum noise contribution. This operates in the receive frequency band of 3625 - 4200 MHz.

(iv) a number of receivers (receive chain) one for each of the carriers to be received, configured to receive the particular receive carrier. Such receivers operate with an input frequency in the receive band and produce a baseband demodulated output in the range 12 - 8120 kHz. This is generally termed the Receive Ground Communication Equipment (RX-GCE).

(v) a transmit amplification system which provides a high power signal in the band for transmission to the feed system.

(vi) a number of transmitters (transmit chain), each of which is suitably configured to modulate an input carrier in the band 12 - 8120 kHz in preparation for transmission in the transmit band. This is generally termed the Transmit Ground Communications Equipment (TX-GCE).

(vii) a multiplex system for combining the numerous telephony circuits on a frequency division multiplex (FDM) basis for both receive and transmit.

(viii) power system.

(ix) control monitoring and test facilities.

/13046

CSO: 5500/35

USSR

BRIEFS

PROTOCOLS WITH CUBA, SRV--A working protocol was signed in Moscow today on cooperation in the field of television and radio broadcasting between USSR Gosteleradio and the Cuban Institute for Radio and Television for 1986-87. On the same day a working protocol on cooperation between USSR Gosteleradio and the radio broadcasting and television commission attached to the SRV Council of Ministers was signed. The further development of exchanges of television and radio material on life in the USSR and Cuba and the USSR and Vietnam is envisaged. The protocols were signed by Comrade Aksenov, chairman of the USSR Gosteleradio, Comrade Gonzalez, chairman of the Cuban Institute for Radio and Television, and Comrade (Chan Lam), chairman of the radio and broadcasting and television commission attached to the SRV Council of Ministers. [Text] [Moscow Domestic Service in Russian 1600 GMT 13 Jan 86 LD] /9274

CSO: 5500/1003

EUROPEAN AFFAIRS

ARIANE TO LAUNCH LUXEMBOURG SATELLITE

Paris AFP SCIENCES in French 21 Nov 85 p 15

[Text] Paris--The first Luxembourg television satellite, that of the European Satellite Company (SES), will be launched by an Ariane rocket in accordance with a contract signed 15 November at Luxembourg by Corneille Bruck, SES president, and Frederic d'Allest, president of the Arianespace Company, which markets the European launch vehicle. The launch is scheduled for April-May 1987 using an Ariane 4, the new model of the European launcher. An additional satellite will be launched at the same time.

Following the most recent contract, signed 12 November for launch of Telecom 1C, the 15 November contract brings the number of orders for satellite launches secured by Arianespace to 37. Including launches already carried out, Arianespace's order book totals 25 satellites with a value of approximately Fr 7.1 billion, or about \$885 million.

The SES satellite, with a total weight of 1,817 kg, is being built by the American company RCA Astro-Electronics. It is equipped with a capacity of 16 television channels whose broadcasts will be receivable using antennas with diameters of from 0.9 to 1.2 meters. It is to be placed in geostationary orbit (36,000 km) at 19 degrees east longitude.

SES was created on 1 March 1985 on the initiative of the government of the Grand Duchy of Luxembourg. This private company under Luxembourg law unites 11 European investors. Its object is the study, placement, financing, and exploitation as a private concessionaire of a satellite system for television applications.

12666

CSO: 5500/2546

BELGIUM

STRUGGLE FOR BELGIAN AIR WAVES CABLE CONTINUING

Too Many Candidates for Belgian Cable

Brussels TELEMOSTIQUE in French 27 Jun 85 pp 18-24

[Article by A. Viollier: "Struggle for a Basket of Cables"]

[Text] The Belgian cable television system is ever expanding. For nearly 20 years, cables crept along building fronts and underground in the cities before they tackled the countryside. Cable is everywhere except in Limburg, where it is just now being introduced. Along with the Netherlands and Canada, Belgium has the world's most extensive network of cables. In any case, Belgium has the most widespread cable network with more than 85 percent of viewers connected: a world record. Depending upon the area, anywhere from 12 to 17 channels are available,--a selection and a privilege which makes Belgium the envy of all of Europe. The program distributors, however, would like to see their efforts more appreciated by the blasé subscribers who "always want more and more for the same fee." People get used to everything. The viewer does not gaze admiringly at this miracle anymore. Repeatedly switching from one channel to another has definitely become a popular sport. Nevertheless, the exasperating shifting from "Dallas" in German to "Hill Street Blues" subtitled in Dutch, with a side trip to a passionate game of darts with commentary in Oxford English, happening onto JR again who in the meantime has become French-speaking, has led many to wonder if there is some fraudulent merchandising. Even if each channel has some--occasionally hidden--excellent material, the general impression is one of redundancy. With the cable, the 90's were supposed to be an audiovisual paradise with an omnipotent screen offering not only an abundance of new programs but also a wide range of domestic services such as catalog shopping, stock quotations, fresh vegetables prices theater reservations, train tickets, cooking and language courses, nonstop news, sports, access to databases....

But the dream is over. While awaiting a better future, the cable remains content with distributing existing TV programs. In fact the law of December 1966 defining its operation prohibits all other activities. (However, a new bill adopted by the government is more flexible.) But the existing distribution is still limited. Faced with demands from viewers, pressure from new satellite TV channels anxious to penetrate the Belgian market, the technical limitations of their equipment, Belgian political and cultural

complexity, and the uncertain prospects of multi-service cable, Belgian television distributors are engaged in a new struggle of interests. They are exercising prudence. As for the subscriber who was promised 36 new TV channels, he would prefer that TF 1 [French Television No 1] not show girls upside down in the middle of a film, as is sometimes the case, or that the sound of FR 3 [the third French TV channel] not be drowned out by the sound of a combine. He also would like to see the phrase "because of unfavorable atmospheric conditions...." appear less frequently on the screen, especially if he recalls how, in former times, with his antenna, he did not have all these problems....

Before condemning the cable system completely, an explanation is in order. It is especially in Brussels where French images sometimes have atmospheric distortions. These images are received in Brussels by the distributors' antennas aimed at transmitters in northern France. At the time of the equinoxes (March-April and September-October) and very high atmospheric pressures, the hertzian waves which normally flow in a straight line tend to get distorted. All of a sudden, Spanish, Russian, or East German programs transmitted on the same frequencies as the French channels disturb the signals. Anomalies also occur when there is fog or snow. "This phenomenon has always existed," stresses Paul-Henri Denuit, manager of Coditel in Brussels, "even with a private antenna. This has nothing to do with the cable.

What is new, however is the congestion of Brussels' air waves. Thus, the new BRT 2 [Belgian Radio and Television No 2] transmitter, located atop the administrative tower of the Botanique (Brussels' new high-rise), impinges upon the frequencies of the TF 1 transmitter signals. Similarly, the powerful transmitter at Wavre with its 1,000 kW encroaches on the territory of a Dutch transmitter. "These are physical laws against which nothing can be done, not even with sophisticated equipment," explains Mr Denuit.

A technical solution does exist, however: channeling the signals by hertzian beam to Brussels. A "normal" TV transmitter sends its signals dispersed in the atmosphere, whereas beam transmission sends them in a straight line to a parabolic antenna. The signals are transmitted in a definite direction, point to point, which makes them far less sensitive to atmospheric disturbances and to interference. Better still, the frequency of the transmission can be modified to avoid mishaps en route. That is how it is possible for Brussels to receive RTL [Luxembourg Radio and Television] and for Liege and the regions beyond to receive the BBC as well as the French channels.

According to Mr de Vergifosse, manager of Brutele, reception of French channels could be greatly improved in this way. "We could establish this connection by ourselves. It would not even cost that much. We could receive the French channels in Charleroi and beam them to Brussels. But, the RTT [Belgian Telegraph and Telephone Administration] is not granting any more licenses. If wants to run this type of transmissions itself and at prices which are prohibited for us."

The dispute between TV distributors and the RTT is several years old. During the sixties and seventies, the good years for cable TV pioneers, the RTT was only too willing to give distributors the authorization to install their own

relay systems. The RTT did not then have adequate equipment. In 1979, everything went wrong due to a plan to nationalize the entire network and the TV distributors receiving stations. The distributors would have been allowed to keep only their cable network with the RTT supplying them all with the same signals. The objective was to make TV distribution equal for all Belgians. The only remnant of this project, however, is the RTT is regaining its monopoly on hertzian transmissions. The distributors managed to retain their private networks but subsequently have had to ask the RTT's consent for each new connection. RTT prices for those services are very high: 60 Belgian francs per program per subscriber, 100 Belgian francs for two programs, 150 Belgian francs for four.... These are the yearly rates paid to the RTT by the distributors of, for example, the BBC. Coditel-Intermosane, which introduced the first English channel on its network in April, stresses that this was only an experiment. Whether or not this service will be continued will depend upon viewer interest. As for ALE-Teledis, which serves the surroundings of Liege and a good bit of the province, it environs declares that it is not prepared to pay for BBC programs. A spokesman of Teledis says: "With our 200,000 subscribers, this means 30 million Belgian francs per year for BBC 1 alone. This is at least as much as the price of the installation if we did it ourselves. The profits the RTT wants to make are outrageously high."

Image (and sound!) distortions all along the cable compound the TV distributors' own reception problems. Reception can be disturbed by all kinds of exterior transmissions: a neighbor CB [citizens band] amateur, illegal local radio stations, etc.... "Some time ago, in some districts of the Brussels system, reception of TF 1 had become absolutely impossible because of a local radio station," says Mr Denuit. "Our viewers complained and it too quite some time before those responsible for this radio realized that they would be in serious trouble if they continued broadcasting. Nothing technical can be done about these phenomena of direct reception."

These difficulties and technical problems vary from one cable network to another, as demonstrated by a survey taken in November 1984 TEST-ACHATS. Thirteen percent of the viewers of Radio-Public (Brussels area) complained of annoying failures, compared to 19 percent of Teledis viewers, 28 percent of Coditel-Liege viewers, 36 percent of Coditel-Brabant viewers, 42 percent of Brutele viewers 53 percent of Namur's Inatel viewers. There are also differences in ratings of image quality: 8 percent of Teledis viewers are dissatisfied, compared to 13 percent for both Coditel-Brabant and Brutele.

Inatel has an explanation for its bottom position in consumer satisfaction: Its network covers a region with widely scattered population. Therefore, Inatel requires 26 reception antennas (only four are needed in Brussels), which, of course, increases the risk of breadkdowns. Namur, the first Belgian city to introduce cable television in 1969 (the Radio-Public network dates from 1936), still receives only 13 channels. Inatel wants to improve reception of this basic service throughout the region before installing new channels and has laid some 15 kilometers of optical fiber cable between its antennas in Hansinelle and Vodecee: viewers thus receive RTL better, along with a bonus of two German stations.

The future lies in fiber optics. This is in any case the credo of the French cable project. In a coaxial cable, signals are transported by means of electrical impulses, whereas in optical fibers--made of a thin silicon strand signals are transmitted by light impulses. Far less weight and space are required to transmit considerably more data. Moreover, existing networks are tree-shaped: beginning at the antenna site, the network branches out in increasingly smaller cables until it reaches the subscribers who all receive the same service. The advantage of optical fiber is that it can be laid in a star-shaped pattern like a telephone cable. Each user has his own line connected with an exchange which is in turn connected with the other exchanges. This allows subscribers access to a number of services such as a selection of TV channels or databases or communication with other subscribers (videophone).... Furthermore, optical fibers do not weaken signals as much as copper wires do: reduction of the number of amplifiers along the network decreases the risk of failures. Finally, optical fibers are virtually insensitive to exterior electromagnetic interference. Optical fiber is thus an ideal material but not for the near future. Mr Denuit explains: "This involves enormous investments which at this point are beyond our reach. When fiber optics matures a bit manufacturing costs are less, we will reconsider it."

The same assessment is stated less directly at Radio-Public. "France has a number of plans, but no networks yet," says its director, Mr de Sutter. "The French cable project is already behind schedule. In Paris, where they have finally opted for a system in which half of the cables are coaxial and half are optical fiber, each new connection costs roughly 100,000 to 120,000 Belgian francs! It is possible to do everything, but it is very expensive. The Americans are more realistic. They are some 10 years ahead of us. When they install a network, they use coaxial cables. They have experimented with multi-service cables, 60 to 80 channels, and interactive cables, but they are cutting back. Somebody has to pay for all these services. Several distribution companies have failed because of their grandiose schemes."

Belgian TV distributors consider themselves realistic. They do not build castles in the air. Even the TV satellites which flood us with lots of programs are regarded with some suspicion. "We will see what they have to offer," says Mr de Sutter. It is not a question of opening antennas and cables to allcomers. The situation has changed since the 70's, when an abundance of programs was a selling point for cable. People invested to have Germany brought to Brussels, and the red carpet was rolled out for RTL.... The days of the catchall cable are over now. The market is saturated with a 90-percent subscription rate in Brussels. There is no longer a demand for new programs unless they are of special interest or are paid for. What can the present TV satellites offer Belgium, then? At the Coditel antenna site in Cointe, on the Liege heights, a parabolic antenna is directed at ECS 1 [European Communication Satellite No 1], the satellite launched by the Ariane space vehicle in June 1983 for Eutelsat, a conglomerate of the PTT's [Post Telephone and Telegraph] of 26 European countries. That is how RAI [Italian Radio and Television] and TV 5 [fifth French channel] are received in Liege. Within the antenna's operations room many other programs can be received as well. Two of these are vying for a place on Belgian cable:

-Sky Channel, owned by the Australian press tycoon Rupert Murdoch, a kind of RTL in English;

-Music Box, which combines Thorn EMI [Electrical and Musical Industries Ltd], Virgin records and Yorkshire TV and televises music videos and music news continuously.

If you were in the control room at Cointe, you could also spend your evenings watching Sat 1, more or less a German counterpart of Sky Channel, controlled by a consortium of German publishers (including Bertelsman and Springer) which broadcasts unscrambled, with commercials;

-3 Sat, the equivalent of TV 5 in German combining the German ZDF [Second German Television Channel], the Austrian ORF [Austrian Broadcasting Corporation] and the Swiss SRG [Swiss Broadcasting Corporation]. All these are public broadcasting corporations;

-World Net, sponsored by the American government currently broadcasting two hours daily. According to Charles Wick, promoter of World Net and special adviser to President Reagan, this channel is as important for the cohesion of NATO as the Pershing II missiles (LE MONDE, 12 February 1985). For the time being, World Net shares its channel with New World Channel, transmitting from Norway, but also of American origin, under the sponsorship of an Evangelical church.

Finally, if you like test patterns and scrambled images, the Cointe antenna receives two pay TV channels: Swiss one, Teleclub, which sells 20 films per month to its subscribers (10 new ones and 10 from the previous month), and Filmnet, which is intended for the Netherlands. In fact, Filmnet uses the Belgian channel of the ECS 1 satellite, which Esselte, a Swedish household appliance company, rents from RTT. This group, in turn, has designated a Dutch film producer to supply these films. When Filmnet is not broadcasting, its channel is used by ITS [Independent Television Service], a company located in Bruges, for transmitting teleconferences. The Flemish regional government has also used it for the promotion of its Flanders Technology project in business circles.

The Belgian television distributors can also receive Intelsat 4 signals with their antennas. This satellite was launched by the Intelsat Agency formed by 108 countries. It transmits four programs to the United Kingdom which may be available some day in Belgium.

-TEN, The Entertainment Network, a pay television network which telecasts movies and variety shows, set up by several major Hollywood companies (MGM, United Artists, Paramount, Universal) in association with British companies.

-Premiere, another movie network, formed by Thorn EMI along with two American pay TV companies HBO [Home Box Office] and Showtime, and other large Hollywood studios. Premiere is looking for European partners in order to enter the continental market.

-Screen Sports rebroadcasts the sports programs of its promoters, ABC and ESPN, the latter being America's largest satellite TV network.

-The children's Channel, finally, telecast 4 hours of children's programs twice daily.

More folkloristic TV entertainment may be received on two Russian channels via the Gorizont satellite. Their future in the West, however, is far less promising compared to all the other channels jockeying for positions in present and future satellite launchings. Scheduled for launch in the summer of 1986, the TDF 1 [French TV Distribution No 1] direct television distribution satellite may include the new Europe-oriented cultural channel being prepared by Pierre Desgraupes. The Luxembourg GDL [Grand Duchy of Luxembourg] satellite is also expected to bring a large number of programs. ITV [Independent Television], the independent British broadcasting channel, will soon be on the English satellite. Ted Turner and his non-stop news channels are also waiting in the wings. However, applications for channel space on the next Eutelsat satellite are already quite numerous.

One thing is certain: the cable cannot accept everything. Coditel, with its 20 to 22 available frequencies, may find itself obliged to be selective sooner than, for example Brutele or Radio-Public, which have a capacity of 30 channels or more with their existing equipment. Sooner or later, Coditel will match the capacity of the others. "But this will require a considerable effort," says Mr Denuit. "The higher the frequencies (to carry more channels), the weaker the signals become in the cable. Then we must reduce the distance between amplifiers throughout the system, which implies renovating the entire network. And all this has to be done without interrupting service, gradually and at certain hours only."....

Such investments are significant. And distribution companies complain that subscription rates have been frozen since 1976, while the upkeep, repair, and management costs of the cable have practically doubled. Furthermore, regardless of the freeze, subscription rates ranging from 3,500 to 4,700 Belgian francs a year (including royalties) are for many subscribers the maximum they can afford. This can be inferred from the fact that payments are increasingly made in installments. It would be difficult to ask more from subscribers. The money will have to be found elsewhere, e.g., from new channels applying for the cable. These negotiations, however, promise to be quite difficult. Could the RTT as an operator for Belgian pay TV? Only a few really think so. Could the RTT open up new services? But it is being cautious. We will continue next week with a discussion of the politico-cultural entanglements of Belgian cable TV, local TV, and the developing in the wind for cable in neighboring countries. After having been pioneers in European cable TV, are we going to fall behind? It is not impossible.

Payment Question Discussed

Brussels TELEMOSTIQUE in French 4 Jul 85 pp 24-27

[Article by A. Viollier: "Somebody Will Have to Pay!", first paragraph is TELEMOSTIQUE introduction]

[Text] Of the 10 programs transmitted via satellite (TM [TELEMOUSTIQUE] last week), only two reach your small screen: RAI (not everywhere) and TV5. Two others are eager to be added to this list: Sky Channel and Music Box. They will soon be joined by all kinds of pay television, movie sport, and children's channels,.... However, it is up to the distribution company to choose first, not the subscriber. And, all of this will not be free.

On 21 April 1985, one day after the official arrival of BBC 1 on Liege cable TV, viewers in the area were surprised when they discovered a new program: Music Box. This program, also in English, consisted mainly of videoclips fortified with commercials. This commercial channel, transmitted via the European ECS I satellite and received by the Coditel parabolic antenna at Cointe, had been introduced into the network as an experiment. This made many exclaim: "Music Box is soon to be followed by Sky Channel," another channel anxious to enter the Belgian cable TV market.

To a man, Belgian television distributors are now trying to temper the impatient viewers' enthusiasm. "We are definitely not going to open up automatically to everything under the sun," they say in unison. Many problems remain to be solved.

The first demand by the TV distributors to these newcomers is that they pay the satellite-to-earth transmission costs as well as royalties which Sky Channel and Music Box, as part of their market penetration maneuvers, are prepared to do for 2 years. "And after that?," asks Paul Denuit (Coditel). "We want a definitive solution so that we will not have to end up asking our viewers for another contribution."

It is this problem which--for the time being--prevents RAI from being put on the Brussels cable. The Italian public channel will assume responsibility for royalties until the end of 1986. After that, a solution may be found by including RAI in the package of 18 programs covered by the agreement of June 1983 with the royalty associations. This agreement has cost you 420 Belgian francs in royalties (plus 25 percent VAT [Value Added Tax] on your TV bill since last year.

On this topic, the three cable TV companies serving the Brussels region stand united: in implied contrast to Liege, where ALE-Teledis' decision to put RAI on cable TV without charge has caused a bit of a scandal. "This was quite a publicity coup which put them ahead of the pack," says a Brussels television distributor. "They will be able to take the credit if negotiations proceed satisfactorily."

As far as royalties are concerned, Teledis has taken advantage of a mitigating circumstance. It does not distribute any English channels and thus has a safer margin for reaching the 18 programs according to the agreement with the holders of the royalties. SABAM [Belgian Public Company of Authors, Composers and Music Editors] turned a blind eye to this. Thus, Teledis set a precedent which obliged Coditel Liege to dedicate a channel to the Italian program, too.

Sky Channel and Music Box will have far more difficulty. Distribution companies will not be happy about any operation which does not benefit them. "They are 100-percent commercial channels," says Mr Denuit, "whose objective is to make profits with our investments and our subscribers. It is fair that they pay something." This prospect makes the people in charge at Sky Channel and Music Box climb the walls, but if they want to gain access to the Belgian market it will have to serve as a basis for negotiations. Sky Channel claims a potential of 2.8 million cable TV viewers in eight countries, which is by no means a guarantee of a profit. The Belgian market alone represents nearly 2.5 million cable TV subscribers. "We are not desperate," says Mr de Sutter, managing director of Radio-Public, who is also chairman of the Union of Belgian Television Distributors. "We will take on new programs provided they are of genuine interest to the general public. In other countries where these channels operate, they constitute an attraction because they are the only ones in English. However, we already have BBC 1 and 2; and before long ITV, the independent English channel, in which we are, a priori, more interested, will be on satellite."

Will all the distribution companies remain this firm about Sky Channel and Music Box as far as prices are concerned? Teledis says it is not prepared to break this united front, despite the absence of English channels on its network and "even despite public demand," Why, then, not take a more flexible stand? "Other companies say nothing, but they may well be more tempted than we are," explains a Teledis official. "Anyway, the licenses have been applied for from RTT and the Walloon government." The sacred union does not exclude competition.

Cable TV candidates must pass another test: the legal licensing process. After having obtained the RTT's technical consent, candidates for the French speaking part of Belgium must get the green light from the Walloon government, which is in charge of the cultural management of cable TV. In addition, the consent of the two education ministers, Andre Bertouille and Daniel Coens, is required for the Brussels region. (They have responded favorably to RAI in Brussels, but distribution companies are still awaiting written notification.)

The department of Philippe Moureaux, president of the French speaking community, will base its response upon that of the "Audiovisual Study Commission" presided over by Robert Wangermee. According to the latest news, the commission is leaning towards a conditional agreement. Some of these conditions might be, for example, that Sky Channel and Music Box would have to include Belgian francophone productions (films, videoclips....) or that they would coproduce new programs with Belgium; or, further, that they will not be allowed to target their commercials specifically at the Walloon market. The latter is an easily acceptable though absurd condition because Sky Channel's main advertisers, Coca Cola, Seven Up, Kodak, etc., have accustomed us to international ads which are as effective in Namur as in Helsinki. Because it is worth the gamble, the two satellite channels are prepared to accept a lot. The most difficult part will be the financing. We will have to wait and see....

Doubts

The forthcoming orbiting of direct broadcasting satellites, by means of which images can be received with a small parabolic antenna by individual households

or large housing complexes, is regarded by some as a future competitor of cable television. "Not by us" says Mr de Sutter. "This is only of interest where cable TV does not exist. Who is going to spend 33,000 to 35,000 Belgian francs on such an antenna to receive one or two new channels and still need community television (or another antenna) to received the national channels and the hertzian peripherals?"

The onslaught on the cable does not come from space alone. French private channels as well as Belgian pay TV will appear as 1986 approaches, provided the 2-year delay in the project is not extended. Will this channel, launched by the RTBF [French speaking Belgian Radio and Television], impose itself (legally) on cable TV? "This is not at all certain," says Mr Denuit. "According to the decrees of 1966 (which will remain in effect until the passage of the new law currently being prepared, along with the series of decrees for enforcing it), this channel does not qualify as a public service station because of its commercial nature and because there are privately owned shares in addition to those owned by RTBF. But this is a legal problem on which I am not going to comment." The subscribers themselves could do so. "We will see. But I believe that very few people will demand pay TV."

At Radio-Public there are the same doubts about the success of this undertaking, but more open-mindedness, depending on conditions. "The forms of cooperation with this new channel may vary," says Mr de Sutter, "but we are in good position to run the entire operation: distribution of decoders, installation etc. We could also reach an agreement with the producers about dividing subscriptions. This is how it is done in the United States. HBO (the leading pay TV channel in America) provides the films, whereas each distribution network is responsible for the quality of the broadcast, coding and the decoders. It is up to this local network to decide whether it will use an expensive but impregnable system, or a cheap one which can easily be pirated; that it, to choose between a decoder costing 12,000 or 3,000 Belgian francs. It is absolutely unacceptable for a third party to use our network. We are accountable to the Royal Decree and to the client. And if something goes wrong, we will be the ones called anyway." Nothing has been decided yet regarding this allocation of tasks--or subscriptions. "We have no specifics. It has been said that electricians are to install the decoders. If that is the case, we will accept no responsibility. But I do not think things will go this way." Not to mention the widespread doubts about the viability of the operation in such a small market as ours. "All studies carried out in various countries show that a potential of from 400,000 to 500,000 subscribers is required. Canal Plus has followed this guideline and so has the Swedish group Esselte (with Filment, a pay channel originally intended for the Netherlands). In Belgium, we are far from a situation where videorecorders, too, will become a serious competitor of cable TV. That is real pay television: People rent cassettes at 100 or 120 Belgian francs for a weekend; they can pirate the film; they choose their film.... This market--in addition to the theater--is becoming more interesting for film distributors than pay television."

Distributors also have the same, or even more, reservations about community stations. There are 10 of these stations in Wallonia, and there will soon be

local stations as well. "We accept them on moral grounds rather than from legal obligation," explains Mr de Sutter. Community TV stations sometimes occupy a permanent channel on the cable, but they are often put on Tele 2 [the second Belgian national channel], especially during off-peak hours. This is what Brutele, Coditel, and Radio-Public, the three musketeers of Bruseels cable, proposed to Tele-Bruxelles as a project which was set up in 1981 and disappeared in the same year. Now it is starting again with a range of community and service programs, local news, movies, music, rebroadcasts of theater plays, etc. Because cable TV companies have never been allowed to broadcast whatever they want, they hope that the decrees following the new law will offer them some opportunities. In Brussels, where one channel is reserved for Tele-Bruxelles, another for Tele Brussel [its Dutch speaking equivalent], another for the RTBF pay TV and one for RAI, etc., the cable companies see their own possibilities disappearing accordingly. Mr de Sutter responds to the ambitions of Tele-Bruxelles and others to round out a varied program by asking: "How will these local television stations ever be able to compete with the national channel? Apart from local news on a look up with the national network RTBF and RTL are preparing to offer this and a few other services, he sees very few development opportunities for them. "What people are really interested in, apart from news, is movies, sports, entertainment, etc. These small stations will never be able to bear the costs of all this."

Mr de Sutter's belief in the use of cable for purposes other than the mere distribution of TV programs from other sources is rather more pro forma than because he has plenty of projects for it. As Mr de Sutter sees it, the undefined euphoria of the 70's is now replaced by realism inspired by the experience of others. Apart from France, where they are still quite enthusiastic about their (nearly) all-optical-fiber cable plan and where viewers whose service has been cut are promised the moon, and Germany, which also has great plans, all countries where cable TV exists have had to reappraise quite a few illusions. "The 100 or so opportunities which were discussed a few years ago will be reduced to two or three viable projects, such as remote surveillance of the aged or ill, which can be carried out on a community level and for which the cable can be useful. But, first, we must get the concept accepted; then, we can research such uses. I believe that we should limit ourselves to our real function: the distribution of audiovisual programs."

With both Great Britain and the United States in the midst of a cable crisis: network bankruptcies, doubts about the future of direct broadcast satellites.... in the opinion of those who are preparing to hump into Europe with new programs, these are only growing pains. Europe will continue to expand its cable system rapidly. The larger producers, especially the American ones, are preparing themselves for this anyway, betting heavily on satellites. By 1992, between 16 and 27 percent of all Europeans will be connected to cable: 6 million viewers in France, 10 million in the United Kingdom, and somewhat fewer in West Germany. As with the Belgian cable, newcomers say that the first on the market will prevail. Once on cable, it is difficult to be dislodged. But while Europe is equipping itself, Belgium is resting on its laurels of the 70's. "Technically speaking it is an illusion to believe that we will be able to get back on the bandwagon. We had the change to be among the first countries in Europe with a cable network. People came from all over the world to see

our cable system. But all expansion opportunities have been blocked because we had to limit ourselves to the mere distribution of TV programs and because we were prohibited from developing the other possibilities of a cable system," (such as telematics, data transmission, etc.... encouraged elsewhere, especially in France).

In the meantime, we may acquire some new Channels--they are coming from everywhere. Unfortunately, with the worldwide scarcity of programs, they all share the same sources: Hollywood stocks, American series.... In Belgium, we discovered before the rest of the world that the primary result of increasing the number of channels is the opportunity to see the same images at different times. And satellite TV does not promise any great changes.

25017/12951

CSO: 5500/2526-A

FRANCE

PARIS MAYOR CHIRAC OPPOSES NEW TV CHANNEL

LD161637 Paris Domestic Service in French 0740 GMT 16 Jan 86

[Summary] The High Broadcasting Authority should make known its opinion on the schedule of conditions for the fifth TV channel today. Paris Mayor Jacques Chirac has confirmed his opposition to its being installed on the Eiffel Tower. He has written four pages of observations in the register of inquiry which has been opened for this purpose by the Paris Prefecture. He considers that the setting up of the services demanded by Tele-diffusion de France [TDF] for installing the fifth channel on top of the tower is pointless, can be criticized as to its legality, and is dangerous and destructive. If the prefect were to disregard this categorically negative opinion and issue a decree authorizing TDF work on the tower, the Paris City Hall would attack the decree in the administrative court and would contest the implementing order for the Eiffel Tower amendment before the State Council.

All this is not intimidating the promoters of the channel, however, as they have begun to install their transmitters for beaming their broadcasts to the Eiffel Tower, and the municipal authorities have complained that no prior notification for the installation had been given.

/9274
CSO: 5500/2565

BRIEFS

EUTELSAT OFFICE IN PARIS--Paris--The European telecommunications organization Eutelsat has been officially operating from Paris since 15 November: Roland Dumas, minister of external relations, and Andrea Caruso, secretary general, officially signed the headquarters agreement for the international organization there. Eutelsat has in fact been in existence since 1977: The organization, in a provisional form, has already placed two satellites in orbit (the third was a victim of the failure of the 15th Ariane shot). The next is to be launched by the Ariane about next 15 May, according to an announcement by Caruso, who noted that a fourth was scheduled for about March or April 1987. The organization is in the midst of the administrative stages of setting up: The agreement regulating it was signed last summer by the 26 member states, and the first meeting of the Eutelsat participants was held in Paris. [Text] [Paris AFP SCIENCES in French 21 Nov 85 p 16] 12666

EUROPEAN TELECOMMUNICATIONS NORM ADOPTED--The 26 member countries of the European Conference of Post and Telecommunications (CEPT), meeting last 15 November in Copenhagen, adopted the concept of a European telecommunications norm (NET). This decision, which considerably alters the current mode of operation of the CEPT in the area of application and status of the organization's recommendations dealing with standardization, constitutes decisive progress in the coordination of the European telecommunications market. The adoption of an NET designed for every terminal by a technical committee of the CEPT will be the object of a weighted vote. The agreement, concluded during a special meeting of the managing directors of Telecommunications (in particular, Mr Dondoux for France), is the consequence of a decision made during the 12th Plenary Meeting, held last June in Nice. The adoption of the European telecommunications norm, which applies to all terminals connected to the network (MODEMs, telephones, telecopiers, computer terminals...), implies that a terminal which satisfies the norm will automatically be approved in all CEPT countries. Remember that at present a telecommunications system must undergo approval tests (long and expensive) in each country where it wants to be distributed. [Text] [Paris ELECTRONIQUE ACTUALITES in French 22 Nov 85 p 11] 12666

EUTELSAT RESOLUTIONS ADOPTED--During the first meeting of the Assembly of Participants, held in Paris from 12 to 15 November, Eutelsat, the European organization for satellite telecommunications, adopted two major resolutions: One deals with the definitive establishment of the organizational headquarters

in Paris; the other with the necessity of allowing Eutelsat to retain its quasi monopoly in the area of exploitation of international space telecommunications. As a matter of fact, the assembly unanimously adopted a resolution which states that "any other system operated in Europe for international telecommunications would only jeopardize the future and the profitability of the organization." Furthermore, the assembly requested that the council of signatories and the managing director remain vigilant regarding attempts to create international telecommunications satellite systems in Europe. Questioned about the scope of the Assembly of Participants' decision, Mr Caruso, secretary general of Eutelsat, confirmed that the very grave concern expressed by the assembly was caused by the private initiatives of Luxembourg providing for the placement of the GDL system, which would enter into competition with Eutelsat in 1987. [Text] [Paris ELECTRONIQUE ACTUALITES in French 22 Nov 85 p 11] 12666

CS0: 5500/2546

6 February 1986

NORWAY

AGENCY TELLS INVESTMENT, TECHNOLOGY PLANS IN ANNUAL REPORT

Oslo AFTENPOSTEN in Norwegian 20 Dec 85 p 24

[Article by Ulf Peter Hellstrøm: "Telecommunications Agency Has Billion-Kroner Profits: Telephone Traffic Growing Rapidly"]

[Text] "Telephone traffic in Norway is growing rapidly. Problems with getting calls through especially involve downtown Oslo and are due, among other things, to the chain effects of the fire at the Frogner exchange."

"Increased activity in industry is probably an important reason for the increased demand for telephone service. The demand has quadrupled in downtown Oslo."

"The Telecommunications Agency is on the threshold of a new technological era. The first digital telephone exchanges will be put into service next year."

These were some of the main points during the Telecommunications Agency's annual press conference in Oslo on Thursday. The service presented preliminary operating figures for this year, which show a profit of 1.14 billion kroner. Next year self-financing will constitute 92 percent. The Telecommunications Agency's investment loans are now taking place on market terms. This implies that capital expenditures are increasing. This year they have reached 700 million kroner, divided between depreciation of 400 million kroner and interest on loans of 300 million. All the same, profits are only 300 million kroner lower than the record result of last year, which occurred because of the change in telephone accounting. That the decline in profits was so low is due, according to the agency, not least to the growing traffic in the telephone system. Sales will amount to 10.1 billion kroner.

Frogner

Telephone traffic in Norway will increase by about 12 percent this year, it appears from the figures which the Telecommunications Agency presented yesterday. Traffic between Norway and foreign countries will increase by over 16 percent. The number of telephone subscriptions will increase by over 100,000 this year to an estimated 1.7 million main subscribers. The telephone waiting list is now about 1000 orders long, 900 of which are confined to Oslo.

The majority of the Oslo line is associated with the Frogner exchange. Waiting lists have come into existence also at other telephone exchanges in downtown Oslo. Many firms which use the telephone often in their business are moving to downtown Oslo.

The Telecommunications Agency reports also that the influx of new telephone orders has been abnormally high this year. The agency believes that increased activity in industry is an important reason. Technical Chief Jan Wilhelmsen of the Oslo Telephone District reported that the agency is counting on eliminating the waiting list during the first quarter of next year.

Getting Calls Through

"Our polls have shown that the percentage of completed calls in Oslo is at 96, whereas in traffic between Oslo and surrounding towns with the exception of Baerum it is 86 percent," Wilhelmsen said.

Experiences associated with the Frogner fire are to be assessed by a special panel of experts. Telecommunications Agency Technical Director Ole Petter Håkonsen announced this during the press conference. The new telephone exchanges which are gradually being put into service in the telephone system will be equipped so that Halon fire extinguishers can be used in them without the telephone exchange's having to be put out of service. Håkonsen reported that the installation of these extinguishers at all of the Telecommunications Agency's exchanges would involve an investment of several hundred million kroner.

Data Services Inrush

The Telecommunications Agency is experiencing a colossal increase in the number of subscribers to its new Datex and Datel data services. The number of Datex subscribers will be more than doubled this year. For the moment the service is struggling in part with long delivery times for these new services. The Telecommunications Agency has been hit, among other things, by the fact that key personnel have been bought up by private industry. The agency emphasized repeatedly yesterday that they are working at high pressure on a number of measures to bring the situation under control.

NMT [Scandinavian Mobile Telephone]

The number of subscribers to the new personnel search service has reached 12,000. This service is now growing more quickly than was the case with the Scandinavian Mobile Telephone Service (NMT) at the equivalent stage a few years ago. The NMT service will grow this year by 61 percent, to 63,300 subscribers. The Telecommunications Agency does not want to say anything regarding when the license halt in Oslo and Akershus will be rescinded. The ability to get NMT calls through in the Oslo region will be considerably better when the new 900-MHz band is put into service next fall. Håkonsen recalls the fact that all earlier forecasts regarding the future use of the NMT system were not sufficient. He hints that the Telecommunications Agency

will possibly have to take up with the political authorities the principles regarding the issuing of licenses if--actually, contrary to assumptions-- it should appear that the capacity of the new 900 system is also overstrained.

8831

CSO: 5500/2550

NORWAY

BRIEFS

PHONE EXCHANGES FROM NORWAY--It took Elektrisk Bureau (EB Communications) only two weeks to secure a 12.6-million-kroner contract to supply 17 telephone exchanges and an operations control system to the Peking area. It is a rarity that technical and commercial negotiations are out of the way in such a short time. Beside EB's product and negotiators, the reason for the quick settlement can be the crying demand for more telephone lines in Peking. EB had the first contacts with its Chinese counterpart just two months ago. The equipment which is to be supplied is very advanced. EB assesses the possibility of additional contracts with China as good. [By AFTENPOSTEN correspondent] [Text] [Oslo AFTENPOSTEN in Norwegian 19 Dec 85 p 40] 8831

CSO: 5500/2550

SWEDEN

CABLE TV VIA SATELLITE TO START OPERATING IN COUNTRY

Stockholm SVENSKA DAGBLADET in Swedish 27 Dec 85 p 35

[Article by Anders Nilsson]

[Text] In a few days Sweden's cable TV network for satellite-transmitted TV will start operating. The old trial system will turn into a permanent system at the beginning of the year with liberal rules that will provide big opportunities for brand-new TV channels in Sweden.

But it will not just be Sky Channel, Music Box and other foreign channels that will fill the cables with programs: several Swedish firms are waiting in line to be the first to transmit commercial TV to Nordic viewers.

It is financially strong companies like Kinnevik, Beijer, Esselte and Proventus that are behind some of the firms that anticipate new business opportunities in connection with TV transmission via satellite. But although all the firms are aiming at the same market, it is hard to find two companies with exactly the same commercial idea. They seem to have focused on niches that will make cooperation possible.

To sum up, Kinnevik-owned Medvik plans to distribute a channel aimed at the Nordic region but does not want to produce its own programs. The Proventus firm, Nordic Television, is thinking of producing a channel aimed at the Nordic countries but has not arranged for distribution. Esselte Video already has a pay-TV channel in operation that will be marketed in Sweden starting in February. Beijer Satellite and Cable is considering efforts aimed at the new market for small cable networks, the so-called dish islands, but it will leave the market for larger networks to the National Telecommunications Administration and other cable excavators. And finally, Luxor and Handic will try to provide all homeowners and others who do not want to wait for cable service with the opportunity to buy their own satellite dishes.

The new cable TV legislation that makes it easier to obtain a permit to transmit satellite TV via a cable network has come too late to make it possible to set up new Swedish channels by the beginning of the year.

"We are counting on getting production under way sometime in the spring and we expect to produce a whole channel for the Nordic countries when cable

development has come a little further if there is sufficient interest on the part of financiers," said Ingemar Leijonborg, head of Nordic Television, Inc.

Financing Central

Financing, of course, is a central issue in all the projects now being discussed in company board rooms. The new cable law leaves room for a certain amount of interpretation but it is already obvious that financing cannot be based on advertisements aimed solely at Swedish consumers, as that is expressly prohibited. But advertising is allowed if it is aimed at a larger audience than Swedish viewers alone, which means that Volvo would have no problem if it buys advertising space on Sky Channel, for example.

It is less clear what would happen if Volvo buys advertising space on Medvik's or Nordic Television's channels if and when they start broadcasting commercial TV to the Nordic region. If an advertisement is aimed at a Nordic audience it will probably be legal, but not if it is aimed at Swedes alone.

The result could be that Volvo will be able to present ads if the announcer speaks English on the Nordic channel, but not if the text is read in Swedish. Presumably firms that sell only to the Swedish market will not be able to advertise on satellite TV.

"We interpret the law as meaning that it is all right to advertise on a Nordic channel even if the text is in Swedish as long as the ad is aimed at the entire Nordic area," said Jan Friedman, vice president of Medvik. "But the rule is so patently absurd that it will have to be changed to allow TV advertising."

Sponsor Payment

One way of financing programs that would probably be all right is to let sponsors pay for programs. Nordic Television expects to rely heavily on this possibility in the beginning.

"We are not so sure that we will be permitted to transmit ads aimed at the Nordic countries. But we don't think there will be any problems with sponsors," said Ingemar Leijonborg.

If sponsored programs are not permitted, that will be one of the first questions the new cable board has to deal with early next year. On Friday, 20 December, the first program was transmitted over Swedish cable TV from a satellite, with production in Sweden and with part of the program paid for by companies that bought editorial space.

The program in question is the Borås firm Scand-Video's news program, "Sweden Today," which has been broadcast in the United States and sold to big companies for a year now.

"In January Esab and Volvo, among others, will pay 15,000 kronor plus production costs in return for our producing a 1-minute news item on them that will

be broadcast to cable viewers in the United States and Europe. If our negotiations proceed smoothly the programs will also be broadcast to 400 million Chinese viewers in the future," said Gunnar Hedin, vice president of Scand-Video.

Hedin said it can be hard for viewers to differentiate between features that have been paid for and regular features, but he did not think that is so important because the editorial staff prepares the sponsored segments too.

Ingemar Leijonborg, on the other hand, is thinking of having sponsors simply pay for programs, not participate in them. But he too hoped the advertising question would be resolved so that financing is easier to accomplish.

"It costs a lot of money to produce TV. We intend to start out with relatively cheap and modest productions, but I hope that I can start series here too, as I did when I worked for SVT, like the series on Strindberg that was aired in the spring."

Nordic Television intends to base its channel primarily on Scandinavian productions. Leijonborg's goal is to have a good deal more Scandinavian programming than TV 1 and TV 2; in more than three-quarters of the programs Norwegian or Swedish will be spoken.

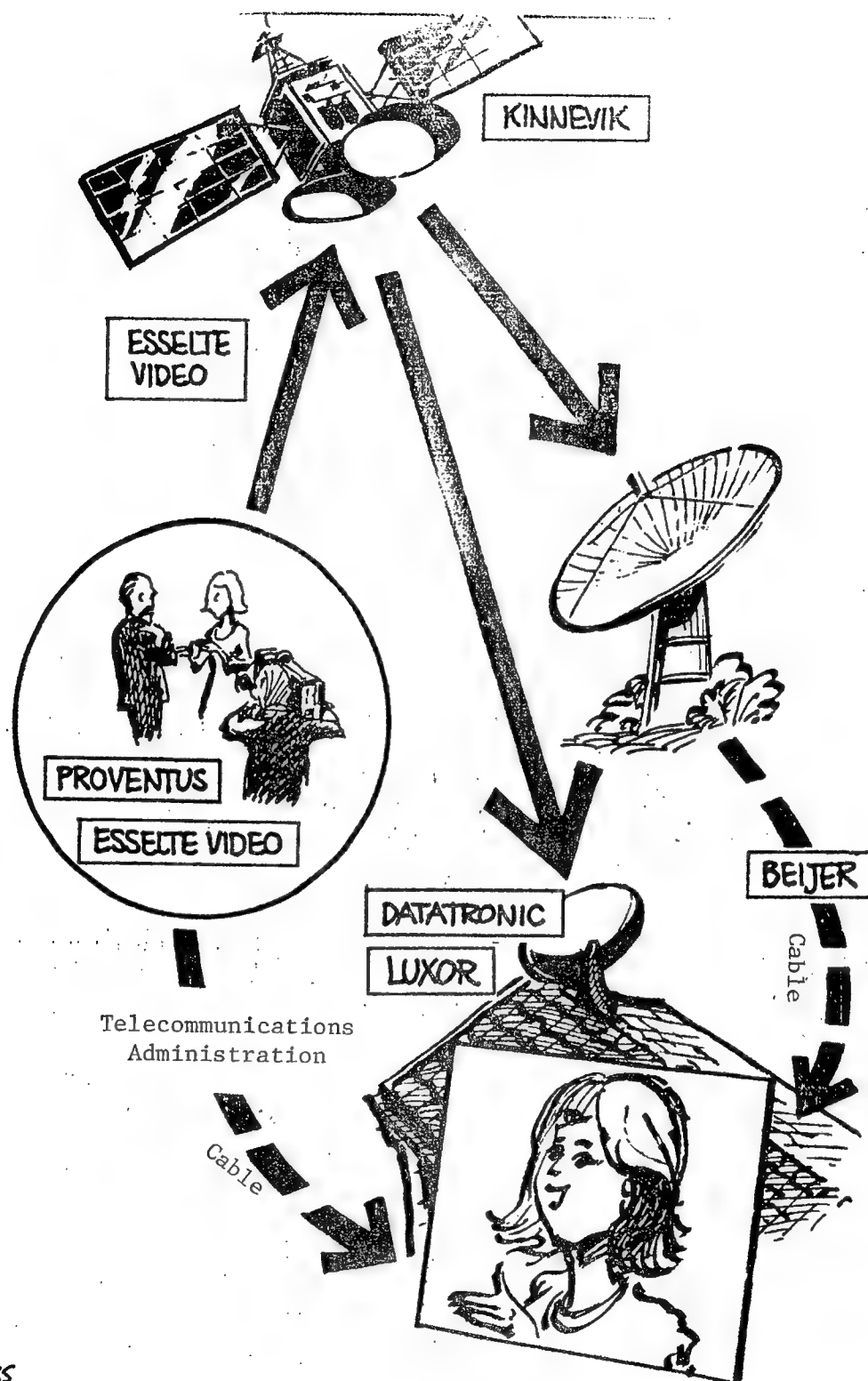
"Therefore we will start training producers in February to work on the new programs. We are not planning to buy up the best people from SVT; we want to train new talents instead."

But like Medvik, Nordic Television is not planning to produce a great deal of its own material. Most of the programs will be purchased from independent producers. The difference in orientation is that Leijonborg intends to play an active part in selecting productions while Jan Friedman views Medvik's role as that of distributor.

"Kinnevik's entire focus is on distributing information, not producing it. We think Medvik will succeed because we have a unique distribution opportunity due to Kinnevik's part ownership of a satellite," said Jan Friedman.

Both Medvik and Nordic Television are convinced they will be able to compete as long as they are able to sell advertisements. Although there are ads on TV 1 and TV 2, they feel there is a lot of room in this area and they point to Australia where three commercial and two public channels are doing well with a population base equal to that of Sweden, Norway and Swedish-speaking Finland.

"Advertising on SVT will probably be regulated by a lot of restrictions if it is allowed at all. We, on the other hand, will have formats much more conducive to advertising," said Jan Friedman. Esselte's pay-TV does not depend on advertising revenue for its survival, but the problem here is to get viewers to pay between 100 and 125 kronor a month for the privilege of seeing movies that are so new they cannot be seen on regular TV. Pay-TV does very well in the United States but has had a tough time in England.



Several big Swedish companies are now beginning to invest money in television. These are just a few examples of firms that are investing in various branches of production. The firms want to compete for advertising income.

"England has very good TV and a lot of video, that is probably why things have gone so poorly there. We think pay-TV will do well in Sweden, but income will depend a great deal on how quickly cable expansion proceeds," said Eric Broberg, who is in charge of Esselte Video's pay-TV.

After the new law has gone into effect, the rate of development will depend on how interested viewers are in seeing the new channels. It is obvious that many companies are interested in utilizing cables. Before the cable board has even started working 180 applications have been received on cable network transmission.

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SWEDEN

COUNTRY'S INDUSTRY SEEN WELL POISED FOR ADOPTING NEW TECHNOLOGY

Stockholm SVENSKA DAGBLADET in Swedish 7 Dec 85 Sec IV p 1

[Article by Gote Andersson: "Sweden Ahead in Area of New Technology"; first three paragraphs are SVENSKA DAGBLADET introduction]

[Text] Telecommunications is already a routine part of life even if we don't think much about it. We make phone calls, watch TV and withdraw money with the help of automatic tellers.

But it is not primarily in our private lives that we encounter the new technology. It is to meet the needs of the business sector that the Telecommunications Administration is investing billions in cable networks and new telephone exchanges.

This special supplement talks about the investments private firms and the public sector are making in the new technology and how the Telecommunications Administration is meeting the demand.

Three factors give Sweden a head start when it comes to building the information society of the future:

1. In 1987 we will be the first country in the world to have a nationwide digital telecommunications network.
2. We are world leaders with regard to terminal density in industry and administration.
3. We have the most digital company exchange systems in the world.

These three factors give Sweden a clear head start compared to all other industrial nations in the view of Bertil Thorngren who is in charge of the Telecommunications Administration's company planning.

The agency predicts a very sharp increase in telecommunications traffic up to 1990. Last year the increase was 10 percent and data communications accounted for most of the increase. In 1990 the agency estimates that data communications will account for around 50 percent of traffic volume in the telecommunications network.

It is the private sector and government offices that will sustain this rapid traffic increase by switching from paper documentation to data communication.

The Telecommunications Administration's entire stress on the digital network is aimed primarily at businesses and government offices. Telecommunications and computers will make firms more efficient and save money. That is the driving force behind the changeover.

Bertil Thorngren also said that Sweden's head start makes it possible for Swedish industry to win market share on the world market. Within a few years Swedish industry will be able to use the digital telecommunications system's services for such purposes as lowering costs and winning market shares, he said.

For example the digital telecommunications network offers connected data communications services 64K per second. A service that offers data communications a speed that is six times greater than the speed provided by the present telecommunications system. This service is useful for relaying CAD/CAM transmissions in industry. In addition the quality of all the data communications services that are already provided will be improved.

The advantages that these services can give Swedish industry will not be provided by other countries for their own business sector until later, in Thorngren's opinion. France may come up with these services 3 years after Sweden does. West Germany, Great Britain, the United States, Japan and other countries will be several years behind France.

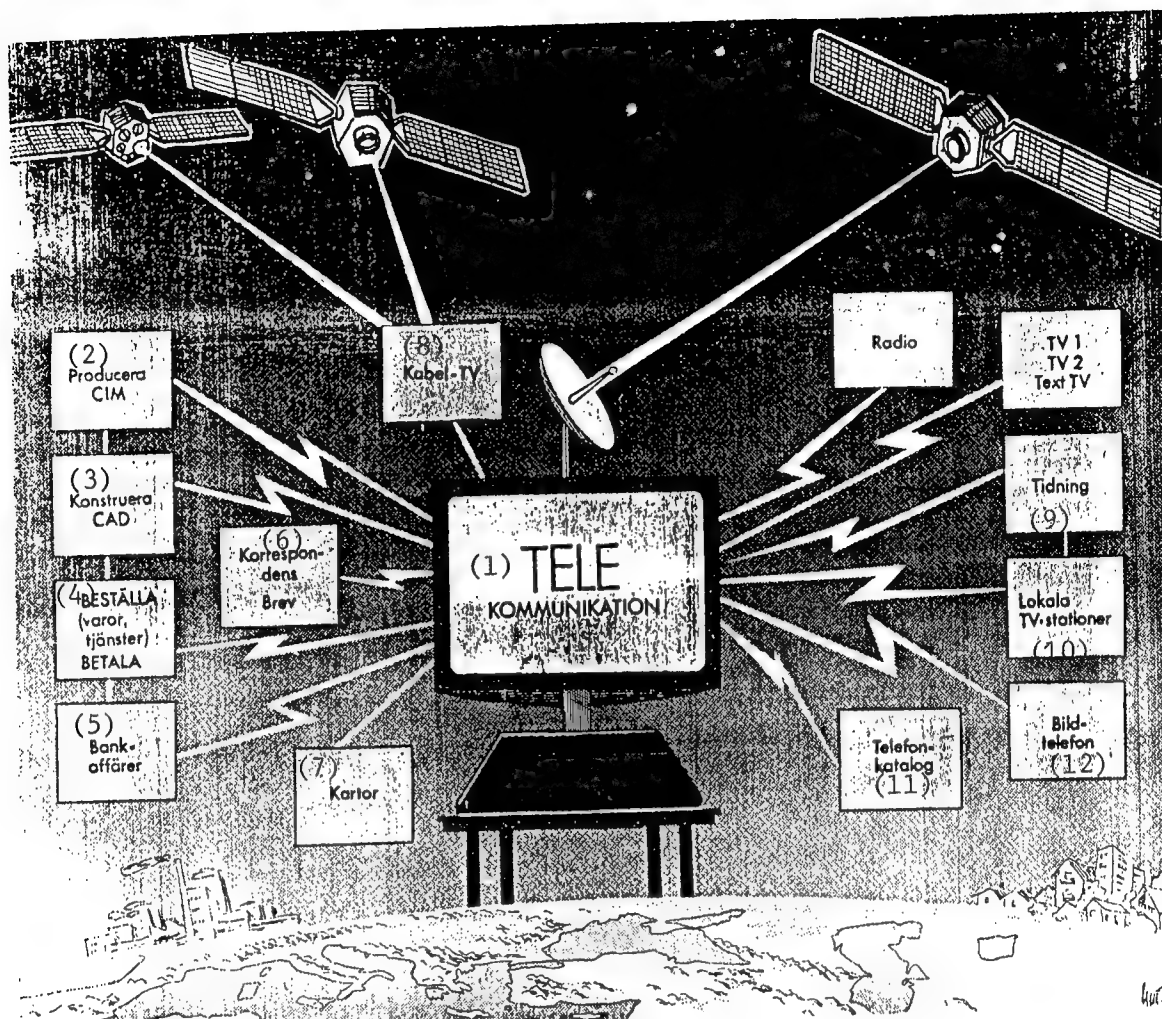
For these countries there is only one way of providing 64K service nationwide and that is via satellite. But this has clear drawbacks compared with a digital ground network. Either it is more expensive or it is impossible to offer the service to all companies, Thorngren said. There is simply not enough capacity to offer the service to everyone; the end result is a number of isolated pockets that are connected through advanced data communication services.

"In the long run it involves the competitiveness of small Swedish businesses," said Thorngren. "They can benefit from the new services and this could put them ahead of their West German competitors, for example."

He named Volvo as an example. The Volvo passenger car division is now planning to use this digital telecommunications system for communications between CAD/CAM terminals, among other things. In such communications 64K service is the lowest possible speed in most cases.

At the same time Thorngren noted that interest in the new data communication service varies sharply from one firm to another. There are firms that do not see the great profit potential in their sector that Volvo is anticipating.

In early 1986 the Telecommunications Administration will announce prices for a 64K service hookup. That will enable all the firms in the country to figure out what the new service will cost them.



Key:

- | | |
|---|------------------------|
| 1. Telecommunications | 7. Maps |
| 2. Producing CIM | 8. Cable TV |
| 3. Designing CAD | 9. Newspapers |
| 4. Ordering (goods, services);
making payments | 10. Local TV stations |
| 5. Bank transactions | 11. Telephone listings |
| 6. Correspondence, letters | 12. Picture phones |

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SWEDEN

AGENCY'S PRODUCTION DIVISION SEEKING EXPORT MARKETS

Stockholm SVENSKA DAGBLADET in Swedish 7 Dec 85 p 38

[Article by Gote Andersson: "Teli Planning to Increase Exports"]

[Text] The Telecommunications Administration's industrial company, Teli, is planning to increase annual sales by 50 percent in 1987, from around 1.6 billion kronor in 1985 to around 2.4 billion kronor in 1987.

The company will do this by selling a number of new telecommunications products in Sweden as well as exporting these products, according to Teli's executive vice president, Olle Andersson. In recent years Teli has acquired market channels in neighboring Nordic countries, Switzerland, Great Britain and the United States. Teli is now investing over 100 million kronor in market organizations and new products.

"For example we now plan to export around 200,000 telephones a year," said Andersson.

Teli will stress the production and sale of various types of terminal. Telephones are a big product there. Text telephones for the deaf, a dialing device that can store 500 telephone numbers and terminals for transmitting text via television and radio networks are other terminal types. The market for text telephones, for example, amounts to around 50 million kronor a year in the Nordic region, according to Teli estimates. There is no product like this in the United States and Great Britain, said Olle Andersson.

Teli is also concentrating on so-called RDS equipment which is used to transmit data via radio signals. In future radio sets the data signals can be displayed on a screen to indicate which programs are being transmitted on the various radio channels.

European Standard

Olle Andersson estimated that the world market is worth around 100 million kronor a year. Teli has a big lead because it was the Swedish Telecommunications Administration that discovered the technical solutions that have now set the European standard.

For the export market Teli is planning to offer a number of products purchased from other producers in addition to its own products. For example it will offer small company exchange systems that serve between 5 and 100 telephone lines. Teli will compete with the Ericsson concern in several countries.

Four Thousand Employees

Teli consists primarily of two parts. One is Teleindustries, Inc. which is a sales company with around 180 employees and the other is Teli's production company. The three biggest production units are located in Vanersborg, Nynashamn and Sundsvall. Digital and analog company exchange systems are produced in Vanersborg. The AXE stations that are installed in Sweden are produced in Nynashamn. Sundsvall produces mainly telephones. A total of around 750,000 telephones a year. Teli has a total of around 4000 employees.

In the past it was thought that employment at Teli's Sundsvall factory would be threatened because Sweden was going to allow free competition by the various telephone suppliers. And technical developments also reduced the labor factor in telephone production since an increasing number of functions were handled by a single integrated circuit.

The Sundsvall factory will now produce a number of the new products and in that way employment levels will be maintained, according to Olle Andersson.

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SWEDEN

AGENCY PLANS INCREASED USE OF DIGITAL EQUIPMENT IN SWEDEN

Stockholm SVENSKA DAGBLADET in Swedish 7 Dec 85 Sec IV p 5

[Article by Jacob Schulze]

[Text] Last year's investment forecasts were too low. In order to take care of increased data traffic the Telecommunications Administration now estimates that it will need to invest 26 billion kronor in the period 1986-89.

The reason is that the transmission of data, text and pictures is experiencing an annual volume growth of 30-50 percent.

"We must meet the acute need and one of the ways we are doing this is by using digital solutions," said Bertil Thorngren, head of company planning.

The national digital network will be ready as early as 1987. This means that regardless of their location, private businesses will have access to picture, text and data communications services in addition to regular telephone service. According to the agency Sweden will be the first country to accomplish this.

Being a world digital champion will take enormous capital investment and require recruiting a lot of new personnel. Modernizing the network will cost 16 billion kronor under a 3-year plan and at the same time 5000 new people must be hired to handle the changeover.

Expensive to Operate

In 1 year the Telecommunications Administration invests around 5 billion kronor in the network, roughly one-sixth of total industrial investments in Sweden. But telecommunications is very expensive in operation. An international rule of thumb is that management in this sector must use half the money earned through sales for investment purposes.

According to the agency, data expansion offers the best chance of quickly expanding the national network. Sweden has the highest telephone density in the world but the growth rate is only a few percentage points a year, which is not an adequate base for digitalizing the network.

But with more than 100,000 data terminals in the country and a potential of around 2.5 million by 1990, the Telecommunications Administration believes that the present costs will be repaid.

Following the Riksdag decision the agency can now go on the open market to borrow the money it needs.

"This increases our financial flexibility and that in turn will facilitate planning. In the past we had to wait with investments if our money ran out during the fiscal year. This led to chaotic network planning," said Bertil Thorngren.

Maintenance Cheaper

Broadly speaking the present network which includes 6000 computers is an asset worth around 100 billion kronor, a resource comparable to the nation's forests.

"But the new network will be cheaper to maintain," said Thorngren.

Bertil Thorngren is the Telecommunications Administration's top strategist, the head of the planning staff. He predicts that data, text and pictures will represent most of the traffic volume in the 1990's.

"There will be some growth in telephony, but people's increased mobility, flexible work hours, meetings and trips will make it harder and harder to get hold of them. That is one reason why such things as electronic mailboxes are becoming more common."

The new network for the integrated transmission of various media is called the telematics network. One of the big goals is "Digital '87," when in principle the entire country should be able to purchase digital services.

More Subscribers

Modernization and further development of the network is part of the general phenomenon of integrated information processing and communication. In line with the modernization and upgrading of physical links in the form of cables, radio links and computers, a number of services will be added.

Thus the Telecommunications Administration has ceased being a "routing agency" to become a communications company. Services will be developed outside the telephone and telex network, to include datex, datapack and videotex, among other things. Here the program anticipates an incredible increase in the number of subscribers.

In the 1980's 300 million kronor is being invested in videotex, but there are currently only 6000 customers. Datex now has 15,000 subscribers but the network is planned for 40,000 in 1987. The base for the parcel transmission service, Datapack, is expected to grow from 1150 to 8800 subscribers by 1987.

"Increased demand can arise very quickly and sometimes selectively. For instance if a communications-intensive company moves from southern to northern Stockholm it can impose a very heavy burden temporarily," said Bertil Thorngren.

Rapid Tempo

"In general I feel we are keeping up with our plans and even surpassing them, but I am aware that some local problems remain and that special efforts are needed there."

One of the biggest problems in the conversion effort is the lack of trained personnel. Under the 3-year plan 500 million kronor will be spent on training. Critical voices have also been raised with regard to the rapid tempo.

In some respects digitalization involves a double work load, due to the fact that the analog network still exists alongside the new one and operating the old system requires a lot of maintenance.

Increased competition can be a factor in stepping up the pace. Private firms can offer satellite connections to customers with special needs. And the Telecommunications Administration is trying to counteract these so-called bypass transactions.

Private companies can offer cheaper rates on high-usage routes while for regional policy reasons the Telecommunications Administration is forced to offer unprofitable services in certain parts of the country. The debate on satellites involves the same issue and therefore the agency is reviewing its price policy. In the long run it can be difficult to maintain an "artificial" price rate.

Criticism

"Competition is increasing and this reduces the opportunities of state authorities to control the consumption of services. It could also be interesting from the point of view of the national economy to show what the services actually cost," said Bertil Thorngren.

The otherwise lively debate on the Telecommunications Administration has largely ignored network expansion. One of the few critical voices heard belongs to Tomas Ohlin, the Liberal Party representative in the data delegation. He feels that the agency's de facto monopoly leads to planning network dimensions that are out of line with what is actually needed.

This primarily involves the speed at the Mbit level, which concerns the transmission of advanced computer applications and video conferences. Today it is mainly big companies that need this.

"Applications of this kind can be handled through point-to-point links and they can just as well be handled via satellite, for example. Not until

sometime in the 1990's will there be a need for more refined high-speed lines of communication.

"The Telecommunications Administration must be checked, it is on the verge of overinvesting. It should wait and observe developments for a period of 5 years by which time there will have been a healthy amount of competition in this market," said Tomas Ohlin.

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SWEDEN

NORDIC COUNTRIES TO CONFRONT TELE-X CONTROL ISSUE

Stockholm SVENSKA DAGBLADET in Swedish 7 Dec 85 Sec IV p 5

[Article by Anders Nilsson; first paragraph is SVENSKA DAGBLADET introduction]

[Text] In 2 years the Nordic Tele-X satellite will be high over Africa and a controversy is already raging about who will supervise it. Plans call for the Norwegian and Swedish telecommunications agencies to take on this job but in view of the Swedish Telecommunications Administration's negative attitude toward the satellite, competitors have compared this to letting a wolf guard a flock of sheep.

In 2 years the Tele-X satellite will be high over Africa, giving the Nordic region two TV channels and providing advanced data communications to the big Nordic industrial concerns.

But there has long been controversy over who should supervise the satellite and what data communication services it should offer.

"The Telecommunications Administration and the Space Agency have different opinions on many important points," said Lemart Hansson, chief engineer at the Space Agency.

Both the Space Agency and the Telecommunications Administration have made studies that show their assumptions are correct. The Telecommunications Administration feels quite simply that it can handle all the Tele-X services better and more cheaply with its ground-based network.

"But there are several Tele-X services that the agency cannot offer through the ground network and that is where we think satellite communication has its market, as a supplement to the regular telecommunications network," said Per Norbinder, head of the Space Agency's contract unit.

Video Conferences

There are four [as published] different services that the Space Agency feels only Tele-X can provide:

Transmission of data with automatic hookups at speeds in excess of 64K per second.

Mobile use of high-speed data communication.

Video conferences from a company's own studio.

This type of service is of little interest to the vast majority of Nordic firms, but that is not the idea. The market is the really large Nordic concerns that have branches in many places. By using satellite transmission they can send data between offices at a high rate of speed.

"High-speed transmission is of special interest when firms want to send a lot of data, such as computer design sketches--CAD--and in connection with video conferences, when high speed is a must," said Lennart Hansson.

Plans call for the Telecommunications Administration to handle data transmission at 64K per second by 1987, in other words 64,000 binary digits per second. But if one needs the speeds handled by Tele-X, 2000K per second, the Telecommunications Administration offers only permanently connected lines.

"If only permanent lines are available and a company with ten offices needs to be connected for free communication, it is terribly expensive. But with satellite communication all each office needs is a terminal costing 400,000 kronor so that it can 'call up' the other offices each time communication is necessary," said Per Nobinder.

Flexibility

Due to the fact that Tele-X will be aimed only at the Nordic region, signals will be easier to receive. This, along with the fact that Tele-X belongs to the new generation of satellites which transmit with much greater efficiency than the present models, means that receiving and transmitting equipment can be relatively small and cheap. A small satellite transmission antenna is 1.5 to 2.5 meters in diameter compared to the present satellites that require a diameter of between 5 and 30 meters.

"This means that antennas can be moved and taken along to new locations. A construction company can establish satellite communications quickly when it opens a new building site. The same thing applies if a company wants to communicate with an office for a limited period of time. The Telecommunications Administration needs a long time to set up a line for high-speed data communication in a new location," said Lennart Hansson.

The Telecommunications Administration's opposition to Tele-X is obviously based on the fact that it wants to handle all data communication via its own lines. Representatives of the Space Agency feel there is not really much competition, because the capacity of Tele-X is only a fraction of the amount the ground network can handle.

But it is estimated that income from data communication via Tele-X will be 150 million kronor a year starting in 1990, which represents traffic that the Telecommunications Administration would rather have for its own lines.

Sports Clubs

The telecommunications agencies in Norway and Sweden have proposed that Tele-X not be used for activities that compete with network services. Use would be restricted to sports organizations, universities and SAS.

Tele-X would be just a reference facility enabling the Nordic region to sell its technology to developing countries.

The criticism from the Telecommunications Administration is hardly surprising--no concern applauds new enterprises that compete with its own. What makes the situation a little special is that current plans call for the telecommunications agencies of Norway and Sweden to assume responsibility for operating Tele-X when it has been launched.

"With the Telecommunications Administration's negative attitude toward Tele-X, this is like asking a wolf to guard a flock of sheep," said Per Nobinder.

Therefore the former head of the Space Agency, Fredrik Engstrom, has turned to some 20 Nordic industrial concerns to propose the formation of a company, Nordcom, that can take over the operation of Tele-X.

No Firm Commitment

The 20 firms, which in practice represent most of the potential customers, have not made any formal commitments about actually investing the 300 million kronor that will be needed to buy into Nordcom.

"But if they get a chance we know that quite a few of them are interested in participating in the project. They are all waiting for the owners, Norway and Sweden, to speak out," said Fredrik Engstrom in his report.

"The Space Agency has no interest in operating the system itself but it would be a pity to see the sizable industrial policy investment that Tele-X represents end up as a test model for transmitting pictures between sports clubs," said Lennart Hansson.

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SWEDEN

TELEINVEST CONCERN PROVIDING VENTURE CAPITAL FOR HIGH TECH

Stockholm DAGENS NYHETER in Swedish 11 Dec 85 p 16

[Article by Olof Bergman]

[Text] From a one-man company to a group of companies with almost 2,000 employees--this, in brief, was the development of Teleinvest over a 4-year period in the field of telecommunications. In addition, since 1984, Teleinvest has been helping the Telecommunications Service by borrowing money on the public market.

With the help of eight wholly owned subsidiaries, Teleinvest--like an octopus--is grasping at everything of value in the fields of telephony and data communications. Unlike an octopus, however, the parent company has the ability to create more "arms" as the need arises, in order to get a hold on new and interesting areas from financing to research.

When Teleinvest was formed on 26 January 1981, it was the intention of the Telecommunications Service to create a holding company that could operate freely on the competitive market, but without the need to maximize profits. On the monopoly side, the service was already well established in Sweden. Now it had a new instrument to compete on various markets throughout the world. From the very beginning Swedtel, a consulting company formed by the Telecommunications Service in 1968 to help developing countries with telecommunications, was associated with Teleinvest.

About 30 Companies

Since the beginning on 26 January 1981 the financial director of the Telecommunications Service, Sven-Roland Letzen, has been the top leader at Teleinvest. At that time, as part-time executive vice president, he was the only employee of the company. Since then the company has developed with extreme rapidity and Teleinvest now has about 20 employees. The concern now has eight subsidiaries and seven partially owned companies. Through these companies, Teleinvest now has a network of about 30 companies in Sweden, Norway, Denmark, England, and Singapore.

With the new year, Letzen will turn over the position of executive vice president to Ingemar Wahlstrom who, until now, has been marketing director at

the Telecommunications Service and has been on the board of Teleinvest on behalf of several Teleinvest subsidiaries.

"The concern has become so large that its daily leadership cannot be carried out by a part-time executive vice president," Letzen said. Nevertheless, as vice president of the board, he will continue to participate actively in the development of the concern.

The Telecommunications Service had three main goals when it created Teleinvest. The first was to move in and support or purchase companies involved in product development and sales in interesting fields. Secondly, it became possible for the company to recruit qualified workers and pay competitive wages. Thirdly, on 1 July 1984 the government gave Teleinvest the right to borrow money on the public market.

Gilt-Edged

"We borrow money with guarantees from the Telecommunications Service, which has a loan ceiling established by the government," director Letzen said.

Last year so-called telecertificates were sold, which yielded returns on a par with those of the National Debt Office. This past November, Telecommunications Service bonds were issued. They were extremely well received.

"These papers could be called 'gilt-edged,' since there is no risk involved and they yield good returns," Letzen said. So far, over 4 billion kronor has been borrowed for the Telecommunications Service. By 1989, a total of 30 billion will have been invested in development of the telephone network and data communications in Sweden.

In conjunction with the formation of Teleinvest, the Telecommunications Service asked the government for permission to start a leasing company to help companies finance the purchase of exchanges and telecommunications equipment. Telefinans was established in 1982 as a subsidiary of Teleinvest to finance purchases for the operation of the Telecommunications Service itself. This company has gradually obtained the right to help companies finance equipment for telefax, teletex, and now even other products handled by the monopoly.

Telefinans is now one of the country's largest finance companies with about 40,000 rental contracts. It is estimated that the company will sign 15 to 20 thousand new contracts annually during the coming years.

Merger

The workshop side of the operation is presently a "labor" headache. The Telecommunications Service has three workshops in Nynashamn, Sundsvall, and Vannersborg, which go under the joint name of Teli. In addition, Teleinvest has two workshops in Skelleftea and Kristinehamn, which form one company, called Teleindustrier AB.

The Telecommunications Service would like to transfer Teli over to Teleindustrier and run all the workshops as a single company. SF (State Employees' Union), which represents the employees of the Telecommunications Service, opposes this move, while the Swedish Metalworkers Union, on the private side, would like to see a merger of the public service's Teli and Teleinvest's Teleindustrier. The government is expected to make a decision on this matter in its budget proposal early next year.

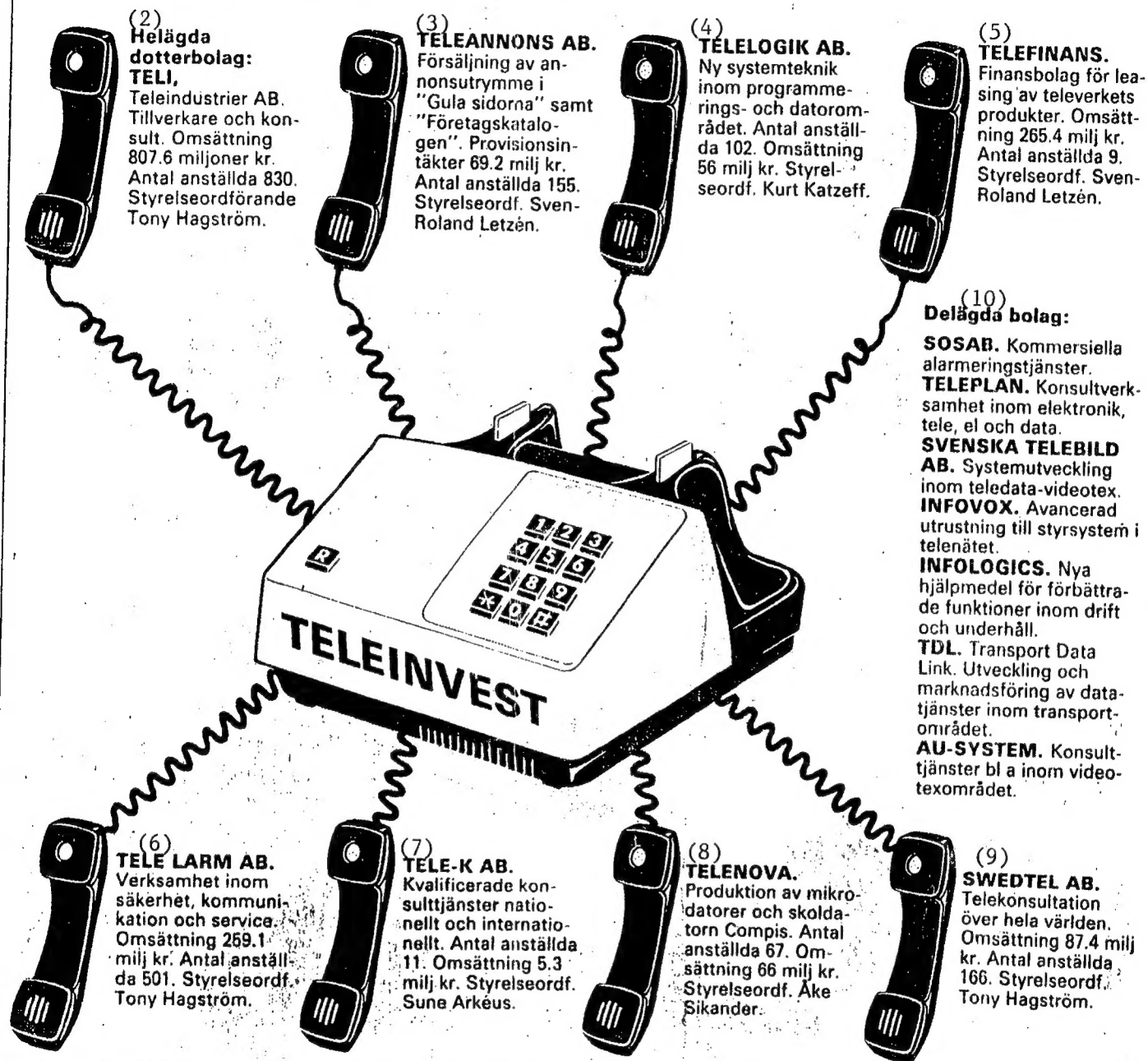
Teleinvest managed to purchase, at a low price, a Norwegian company that specializes in control systems for air traffic, Letzen said. This company was called Nerion A/S. It was later converted into two companies. Together with Swedoom, one of Teleinvest's entrepreneurial companies, Nerion has constructed a control system for the airport at Riad, Saudi Arabia. Nerion is now part of an industrial group under Teleindustrier.

Several companies, each with its own specialized area, has been formed in the field of data technology. Telelogic, for example, is working with new systems technology in the fields of programming and computers. Together with Telesoft, it is also trying to produce new programming languages. Infovox and Infologics are two companies that are working with advanced computer development and sales on the public market.

A totally new project is being developed in conjunction with Volvo and the Goteborg harbor. Director Letzen has great faith in the future of this project. It is called TDL, an abbreviation for Transport Data Link, not to be confused with Scandinavian Link. It is a totally new system to simplify all paper work in conjunction with the transport of goods. The sender, the transport company, and the receiver can continuously monitor shipments of goods with the help of a special data base.

One goal of Teleinvest is for the concern to yield 30-percent gross returns before taxes on paid-up capital. This goal could not be achieved during the fiscal year ending on 30 June. The reason was that TeleNova, the company that produces the school computer Compis, showed losses of 77 million in developing and completing the computer.

(1) Teleinvest spindeln i nätet



TELEINVEST: Functions include borrowing on the public market, real estate management, internal auditing, and budget work, as well as risk management for holding companies. Gross sales are 426.8 million kronor. The company has 21 employees and its board chairman is Tony Hagstrom.

Key:

1. The Teleinvest spider in its web.
2. Wholly owned subsidiaries: TELI, Teleindustrier AB. Producer and consultant. Gross sales 807.6 million kronor. 830 employees. Board chairman is Tony Hagstrom.
3. TELEANNONS AB. Sells ads in the "Yellow Pages" and in the "Business Catalog." Commission earnings 69.2 million kronor. 155 employees. Board chairman is Sven-Roland Letzen.
4. TELELOGIK AB. New systems technology in programming and computers. 102 employees. Gross sales 56 million kronor. Board chairman is Kurt Katzeff.
5. TELEFINANS. Finance company with leasing of products from Telecommunications Service. Gross sales 265.4 million kronor. 9 employees. Board chairman is Sven-Roland Letzen.
6. TELE LARM AB. Activities in security, communications, and service. Gross sales 259.1 million kronor. 501 employees. Board chairman is Tony Hagstrom.
7. TELE-K AB. Expert consulting services nationally and internationally. 11 employees. Gross sales 5.3 million kronor. Board chairman is Sune Arkeus.
8. TELENOVA. Production of microcomputers and the school computer Compis. 67 employees. Gross sales 66 million kronor. Board chairman is Ake Sikander.
9. SWEDTEL AB. Consulting on telecommunications throughout the world. Gross sales 87.4 million kronor. 166 employees. Board chairman is Tony Hagstrom.
10. Partly owned companies:
 - SOSAB. Commercial alarm services.
 - TELEPLAN. Consulting in electronics, telecommunications, electrical work, and computers.
 - SVENSKA TELEBILD AB. Systems development in telecommunications data and video text.
 - INFOVOX. Advanced equipment for control systems in telecommunications networks.
 - INFOLOGIC. New aids for improved functions in operation and maintenance.
 - TDL. Transport Data Link. Development and marketing of computer services in shipping.
 - AU-SYSTEM. Consulting services in video text and other areas.

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SWEDEN

NEW GROUND STATION TO INCREASE PHONE, TELEVISION CAPACITY

Stockholm DAGENS NYHETER in Swedish 18 Sep 85 p 7

[Article: "New Telecommunications Station Gives More Lines Abroad"]

[Text] On Tuesday the Telecommunications Service dedicated its new telecommunications satellite station in Agesta in southern Stockholm. When the station begins operating early next year, the Telecommunications Service will significantly increase its capacity for telephone calls to Europe.

At present, 650 telephone calls can be conducted simultaneously through the Telecommunications Service's cables to the continent. The gigantic new parabolic antenna will increase this capacity by an additional 1,920 lines. The station will also convey calls from Denmark, Norway, and Finland.

The Agesta station is already responsible for the Eurovision TV broadcasts of the Nordic countries (except Iceland). It has carried out this function since last June, broadcasting the Live Aid Concert, among other programs.

The station has a parabolic antenna 18 meters in diameter that is aimed at a satellite located in a stationary position over Nigeria. This satellite belongs to Eutelsat, in which Sweden and 19 other countries work together in telecommunications.

It has taken 4 years to construct the station at Agesta. The cost is estimated at 60 million kronor.

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END